

SAFETY POLICY AND PROCEDURE CATEGORIES AND DOCUMENTS

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Drug Testing Program	Safety Committees
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Hazardous Communication	Vehicle Recovery
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<ul style="list-style-type: none"> Policy and FAQ Detailed 1/18/13 	Warning Lights(TMA, Fleet Lights)
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Three-Points of Contact

All employees shall use three points of contact, facing towards the vehicle, when entering and exiting a truck, motograder, loader, etc.

Boiler & Pressure Vessel Safety

Pay your Boiler & Pressure Vessel Invoice Online

(https://secure.collectorsolutions.com/csi_collections_portal_ui/interchange.aspx?CIID=nb23ws76&STE=2)

(Follow on-screen instructions. A minimal convenience fee is applied based on method of payment. You may cancel prior to payment authorization.)

XML Validation Tool for Electronic Inspection Report Submission

- **Follow** these **instructions (boiler-validation-instructions.php)** to save and rename the following files to be used for data submission.
- **Save** the following files to your hard drive by right-clicking on the file name and save to a folder
Validation Tool (/documents/SchemaValidator.txt)
XML Schema (/documents/MOInspection-02-22-2011.xsd)
- **E-mail** (<mailto:dawn.urban@dfs.dps.mo.gov>) for electronic submission of Boiler & Pressure Vessel Inspections
- **Enter** EI Submission File in the subject line of your email

To help ensure the safety of the citizens of Missouri, the Division of Fire Safety issues approximately 20,000 certificates of inspection each year for boilers and pressure vessels in service throughout the state. An estimated 2,000 of these units are found to be in dangerous condition each year. Division inspectors conduct inspections on uninsured boilers and pressure vessels and provide consultation for the owners and operators of uninsured units. Companies insuring boilers or pressure vessels may conduct inspections at locations they insure.

Effective Nov. 12, 1986, boilers, hot water heaters and pressure vessels are required to be constructed to the American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel Codes and registered with the National Board of Boiler and Pressure Vessel Inspectors. There are exemptions due to size and type of facility. For example, residences with fewer than six families are exempted but any common buildings, such as recreation centers or pool heaters, are not exempt.

Boilers and pressure vessels installed prior to Nov. 12, 1986, are exempted from ASME construction requirements but not from the requirements for the controls and safety devices. Used objects may not be reinstalled unless they are ASME constructed and National Board registered. Variances may be obtained but require approval of the Missouri Board of Boiler and Pressure Vessel Rules, which meets once per quarter.

Installers of all boilers and pressure vessels falling within the scope of the act are required to obtain an installation permit from the Division of Fire Safety prior to beginning the installation.

Certificate inspections are the responsibility of the owner, regardless of contractual agreements. It is a Class A misdemeanor to operate an object without a valid inspection certificate and fines can reach up to \$5,000 per day of violation. Boiler and machinery insurance companies may conduct inspections at locations they insure. The certificate inspection frequency varies from one to two years, depending on the use of an object. In general, every object has a two year inspection frequency except boilers that generate steam over 15 pounds per square inch (psi). These objects require a biennial internal inspection of the water side.

1. Hot water heaters with heat input greater than 200,000 British thermal units per hour (Btu/hr)
2. Hot water heating boilers.
3. Steam heating boilers.
4. Steam process boilers. This includes steam kettles, laundry boilers, all process boilers, hot oil or other liquid type boilers, power boilers, locomotives (including amusement types), etc.

5. Air compressor tanks greater than 10 cubic feet in volume or operating at more than 200 psi.
6. Pool heaters with heat input greater than 200,000 Btu/hr.

Related U.S. Consumer Product Safety Commission News

NTI Trinity Gas-Fired Hot Water Boilers Recalled Due to Carbon Monoxide Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07151.html>)

TAC LLC Recalls "Erie Boiler Boss" Boiler Controls for Scald Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07089.html>)

Crown Boiler Co. Recalls Boilers Due to Carbon Monoxide Poisoning Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07063.html>)

Weil-McLain Recalls Ultra Series Boilers for Carbon Monoxide Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07020.html>)

Documents / Forms

- Boiler Variance Form
(/documents/forms/MO_815-F0011.pdf)
- CSD-1 Reporting & Recommended Forms

(/documents/forms/MO_815-F0009.pdf)
- Guide for Completing Installation Permit Application
(/programs/bpv/guide-complete-installation-permit.php)
- Boiler & Pressure Vessel Installation Permit Application
(/documents/forms/MO_815-F0008.pdf)
- Boiler & Pressure Vessel Installation Permit Application
(/documents/forms/MO_815-F0085.doc)
- Inspectors Application for New Commission or Renewal
(/documents/forms/MO_815-F0010.pdf)

Laws and Regulations

- Boiler & Pressure Vessel State Statute RSMo 650.200 through 650.295
(<http://www.moga.mo.gov/mostatus/stathtml/65000002051.html>)
- Boiler & Pressure Vessel Code of State Regulations 11 CSR 40-2.010 through 40-2.060
(<http://s1.sos.mo.gov/cmsimages/Boiler%20and%20Pressure%20Vessel%20Code%20of%20State%20Regulations%2011CSR/11c40-2.pdf>)
- 2012 Legislative Changes
(/documents/2012-leg-updates.pdf)

Frequently Asked Questions

- Boiler & Pressure Vessel Safety
(/about/faqs.php#boiler-pressure-vessel-inspections)

Related links

- Boiler & Pressure Vessel Licensed Inspectors
(/programs/bpv/bpv-licensing.html)
- Checklist for Starting Boilers After a Lay-Up Period
(/programs/bpv/checklist-boiler-startup.php)
- Drawn or Natural Gas Hazards
(/safetytips/natural-gas.php)
- Carbonated Beverage Carbon Dioxide (CO2) System Safety
(/safetytips/carbondioxide.php)
- Recovering Boiler Systems After a Flood Safety Tips
(/programs/bpv/recovering-boiler-after-flood.php)
- Weil-McLain 2014 Safety Recall
(<http://www.cpsc.gov/en/Recalls/2014/Weil-McLain-Recalls-Ultra-Series-Boilers/>)

Policy 2511

From Human Resources

PERSONNEL POLICY MANUAL

MoDOT Personnel Policy Title: Alcohol Testing Program

Policy Number: 2511 **Chapter Title:** Employee Conduct

Effective Date: October 1, 2014

Supersedes Policy Number: 2511 **Dated:** January 17, 2012

Approved By: Micki Knudsen, Human Resources Director

(Signature on file)

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POLICY STATEMENT

The department will conduct alcohol breath tests on employees as described in this policy. This testing will be done to provide an efficient, safe work environment for department employees, and protect the public by ensuring employees are free from alcohol while on the job. These procedures will comply with alcohol testing requirements of the U.S. Department of Transportation (DOT).

PROVISIONS/REQUIREMENTS

SECTION I - GENERAL

1. All employees are prohibited from possessing or consuming alcohol on the job. Employees are also prohibited from performing work or reporting for work while affected by alcohol. Employees in safety-sensitive positions are prohibited from performing safety-sensitive functions within four hours after consuming alcohol (eight hours for pilots). Employees in safety-sensitive positions are also prohibited from consuming alcohol within eight hours following an on-the-job accident or until they complete an alcohol test, whichever occurs first.
2. Wage employees and salaried employees who have not completed their initial probationary period (first six months in a salaried position) will be dismissed from employment with the department if they test positive on an alcohol test with a breath-alcohol content (BrAC) level of 0.02 or higher.
3. Salaried employees who have completed their initial probationary period and test positive on an alcohol test with a BrAC level of 0.04 or higher will be dismissed from employment with the department.
4. Salaried employees who have completed their initial probationary period and test positive on an alcohol test with a BrAC level of 0.02-0.039 will receive a 40-hour suspension without pay, a recommendation to contact the Employee Assistance Program (EAP), and will be subject to and must pass a return to duty test. These employees will also be on disciplinary probation for one year. If a second positive test occurs (at a BrAC level of 0.02 or above), the employee will be dismissed from employment with the department.
5. The department will conduct alcohol tests on employees in positions which require a commercial driver's license (CDL) if performing safety-sensitive functions during the work shift in which the test is to be conducted. The department will also conduct alcohol tests on employees who work in positions which are safety-sensitive but do not require a CDL. Alcohol testing conducted on these employees is done under department personnel policy rather than DOT requirements.

Employees and collection facilities must be notified whether an alcohol test is being conducted due to DOT requirements (for CDL positions) or department requirements (for non-CDL positions that are safety-sensitive). This notification may be provided by the local human resources staff, district/division Risk and Benefits Management (RB) staff, or the supervisor.
6. The department will not conduct tests for:
 - A. External applicants.
 - B. Employees in non safety-sensitive positions.
 - C. Employees in safety-sensitive positions who are performing non safety-sensitive functions during their work shift.

Examples of when employees are performing entirely non safety-sensitive functions include, but are not limited to, the following:

(1) Attendance at a training program such as computer training. If the training involves the use of a commercial motor vehicle (CMV), such as operation of equipment for snow removal, the training is considered to be a safety-sensitive function.

(2) Attendance at an all-day staff meeting, team meeting, or conference. If employees drive a CMV to and from training programs, meetings, etc., they have performed safety-sensitive functions during their work shift and are subject to testing.

SECTION II - TESTING CATEGORIES

Employee Testing

7. Wage and salaried employees who work in safety-sensitive positions will be subject to alcohol testing as listed below. Further explanations of these conditions for alcohol testing are provided in paragraphs 8-11.

A. Random testing (see paragraph 8).

B. When evidence provides reasonable suspicion that employees reported to work or performed work while affected by alcohol, or consumed alcohol on the job (see paragraph 9).

C. Post-accident testing, when involved in a serious accident (see paragraph 10).

D. Return to duty testing (see paragraph 11).

Random Testing

8. Employees who work in safety-sensitive positions will be subject to random testing. The department will ensure the number of alcohol tests conducted annually will meet or exceed the federal testing requirements. Alcohol tests will be conducted in this random category only if employees perform safety-sensitive duties during their work shift.

Reasonable Suspicion Testing

9. Wage and salaried employees in safety-sensitive positions will be required to complete an alcohol test when evidence shows reasonable suspicion that employees have:

A. Reported for work while affected by alcohol;

B. Performed safety-sensitive functions while affected by alcohol;

C. Consumed alcohol while performing safety-sensitive functions;

D. Reported for work or performed safety-sensitive functions while in the possession of alcohol.

Alcohol tests will be conducted in this category only if employees are performing safety-sensitive functions during their work shift.

The decision to test must be based on a reasonable belief by a supervisor, who has been trained in the detection of alcohol abuse, that employees have violated A, B, C, or D above. Information on what may provide reasonable suspicion is outlined in Procedure 2511, "Alcohol Testing Program."

If an alcohol test is required, it should be completed within two hours but must be completed within eight hours after the suspicious behavior was observed. Employees who pass this test will be allowed to return to work with no loss in pay.

Post-Accident Testing

10. There are two categories of testing under post-accident testing noted below. Employees tested under post-accident testing criteria will not be suspended without pay while waiting for test results. These employees will be allowed to return to their normal assignments pending their test results.

A. DOT Required Testing: Wage and salaried employees in CDL positions will be required to complete an alcohol test when directly involved in a serious accident - an accident in which they are driving a CMV on a public road and the accident resulted in either:

- (1) Human fatality; or
- (2) A citation being issued to the employee under state or local laws for a moving traffic violation and one of the following two situations existed:
 - a. Serious bodily injury occurred to one or more of the drivers or passengers, which required medical treatment away from the scene of the accident; or
 - b. Disabling damage occurred to one or more of the vehicles, which required any of the vehicles to be towed away from the scene of the accident.

Due to the restrictions for testing of this category, especially when an accident occurs on a public road, supervisors are expected to contact law enforcement officials to help investigate the accident. Whether a law enforcement official arrives or not, supervisors are responsible for determining if an alcohol test should be required.

If an alcohol test is required, it should be completed within two hours and must be completed within eight hours after the accident. Testing cannot be required after eight hours. Employees involved in serious accidents are to be told they cannot consume alcohol for eight hours following the accident or until an alcohol test is completed, whichever occurs first.

B. Department Personnel Policy Required Testing: Although not specifically required by DOT regulations, the department will also conduct post-accident alcohol testing on employees in CDL positions and safety-sensitive positions which do not require a CDL under the circumstances listed below. The criteria in (1), (2), and (3) below must all be met to require an alcohol test by department personnel policy.

- (1) When an employee is directly involved in an accident on public or private property, in which the circumstances show the employee either caused the accident or failed to take reasonable measures to avoid the accident.
- (2) The employee was operating a CMV or any type of heavy equipment other than a motor vehicle (car, pickup, etc.).
- (3) The accident caused either:
 - a. A fatality or serious bodily injury requiring medical treatment away from the scene; or

- b. Combined property damage (public or private) in excess of \$5,000.00.

Return to Duty Testing

11. Salaried employees (beyond initial probation) who test positive on an alcohol test with a BrAC level of 0.02 – 0.039 will not be allowed to return to work until they pass an alcohol test (return to duty test) and complete the required suspension without pay.

SECTION III - VOLUNTARY REHABILITATION OR EDUCATION

12. The department encourages employees who feel they have problems with alcohol to voluntarily participate in an alcohol rehabilitation program; however, even if in such a program, employees should be aware that they are subject to the same tests as any other employee. Discipline for positive results will be administered in accordance with the guidelines outlined in this personnel policy. Employees are responsible for the cost of their alcohol rehabilitation program. Employees may contact the EAP or their insurance provider to learn what coverage they have for a rehabilitation program. Information about alcohol rehabilitation centers in Missouri will be provided by the RB Division. Employees who attend an alcohol rehabilitation program may utilize accumulated sick leave, annual leave, or compensatory time, if needed, for time spent in the program during which they are not able to work. ShareLeave will not be available for time spent in rehabilitation. Employees who use all their paid leave time may be placed on sick leave without pay status to complete the program; or they may be allowed to claim unpaid Family and Medical Leave (FML), if they have not used their limit of FML during the previous 12 months and the leave time qualifies under the Family and Medical Leave Act.

SECTION IV - DISCIPLINE

13. Testing positive on an alcohol test is considered misconduct connected to work.
14. Employees who complete an alcohol test will be immediately informed of the results of their test. Employees who pass this test will be allowed to return to work.
15. All employees who refuse to complete any required alcohol test or fail to report for an alcohol test when scheduled will be dismissed from the department. Salaried employees (beyond initial probation) who tested positive on an alcohol test at a BrAC level of 0.02-0.039 and refuse to take the required return to duty test will be dismissed from the department. Employees dismissed under this paragraph may have rights to appeal such termination as outlined in Personnel Policy 2100, "Grievance Procedure," and Policy 2103, "Formal Termination Hearings."
16. Employees who are dismissed or voluntarily resign as a result of any action related to alcohol testing will not be eligible for consideration for re-employment with the department.

SECTION IV - TEST RESULT CHALLENGES

17. When an alcohol test is performed, employees will be given a confirmation test if their initial (screening) test is at or above 0.02 BrAC. The confirmation test will be completed in no less than 15 minutes from the completion of the screening test. The confirmation test will be used to determine the results of the alcohol test. Employees may not request further tests or challenge the results of the confirmation test.

18. Employees who feel they have unfairly been required to complete an alcohol test under reasonable suspicion may file a grievance through Personnel Policy 2100, "Grievance Procedure." Employees may not file grievances for other required tests or for discipline related to failing an alcohol test except that employees dismissed for a positive alcohol test may have rights to appeal such termination as outlined in Personnel Policy 2100, "Grievance Procedure," and Policy 2103, "Formal Termination Hearings."

SECTION V - ADMINISTRATION

19. The department's alcohol testing program will be administered by the RB Division who will be responsible for maintaining all records relating to alcohol testing. All information specifically related to alcohol testing of employees is confidential and will be treated as such by those who have a need for the information in the performance of their duties.

20. Except as specifically required by DOT regulations, the director of MoDOT shall have discretion to vary the terms of this personnel policy if individual circumstances warrant.

CROSS REFERENCES

Personnel Policy 2100, "Grievance Procedure"

Personnel Policy 2103, "Formal Termination Hearings"

PROCEDURE

Procedure 2511, "Alcohol Testing Program"

Retrieved from "http://hr.modot.mo.gov/index.php/Policy_2511"

- This page was last modified on 30 September 2014, at 18:10.

Aprons [29CFR 1910.132] shall be worn as required by **Material Safety Data Sheets (MSDS)** for chemical exposure.

127.25 Maintenance Environmental Policies

From Engineering Policy Guide

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127.25.1 Solid Waste

127.25.1.1 Asbestos

Asbestos or possible asbestos containing material that is to be removed during remodeling, repair or demolition shall be sampled by a MoDOT Asbestos Inspector. Material that tests positive for asbestos must be removed by a permitted removal contractor and overseen by a MoDOT Asbestos Contractor Supervisor. All asbestos containing materials shall be handled according to local, state and federal regulations. Asbestos containing materials that do not have to be removed or disturbed shall be left in place. Materials found to have been damaged or become friable (crumbles easily) will be repaired or removed and replaced with non-asbestos containing material. All asbestos work must be done by qualified personnel. There are two types of notifications required by MDNR in regard to asbestos abatement and demolition. Asbestos abatement notification must be provided to MDNR at least 10 working days prior to the start of the project. Demolition or major renovation notification must be provided to MDNR at least 10 working days prior to the start of that project. The demolition notice is required even if there is no asbestos identified in the project.

Reason for Policy: 10 CSR 10-6 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-6a.pdf>) , Air Pollution Control Program

RSMo 643.225 - 643.620 (<http://www.moga.mo.gov/mostatutes/chapters/chapText643.html>) Air Conservation

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.2 Solid Waste

The department shall dispose of garbage, refuse and other discarded material in a permitted sanitary landfill. Materials such as whole tires, batteries, appliances, used oil and hazardous wastes are prohibited from being disposed of in a sanitary landfill and shall be recycled as regulations dictate. Construction and Demolition Waste (<http://dnr.mo.gov/env/cdwaste.htm>) also considered solid waste from older buildings being renovated or demolished to make room for newer, more modern buildings. Properly managing the waste during the demolition will prevent threats to human health and the environment.



Reason for Policy: RSMo 260.200 (<http://www.moga.mo.gov/mostatutes/stathtml/26000002001.html>) - 260.345 Environmental Control

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.3 Tire Management

Waste tires unsuitable for sale or recapping shall be disposed of under state contract CCO form MT15 (http://sharepoint/support/CC/CCO%20Contracts/MT_-_Maintenance/MT15_Waste_Tire_Removal_Agreement.docx) . Contact an Environmental Specialist for current contract information. Burning tires or tire pieces is prohibited. Tires and tire pieces shall be stored in a manner that avoids providing a mosquito-breeding site. Twenty-five or more whole tires stored at any one site must be covered. Maintain an inventory of less than 500 whole tires at any one site, at any one time, unless they are loaded on a truck for disposal.

Reason for Policy: 10 CSR 80-8.010 - 80-8.040 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c80-8.pdf>) Solid Waste Management

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.4 Street Sweepings

Street sweepings are considered solid waste by the Missouri Department of Natural Resources (MDNR) (<http://www.dnr.mo.gov/>) . The sweepings must be disposed of in a permitted sanitary landfill. An exception from disposal in a landfill has been granted by MDNR. To qualify for the exemption, the street sweepings must meet the beneficial use requirements as established by MDNR.

To qualify for the beneficial use exception, the sweepings must be composed of grit and dirt from the roadway surface and only minor amounts of trash, litter or automotive parts can be present in the sweepings. The sweepings can contain asphaltic concrete materials as clarified in the April 2010 MDNR approval letter.

Street sweepings need to be processed or screened to remove trash, litter and other debris. If the screenings still contain excessive amounts of trash, litter or other debris, additional processing will be required; or the materials will need to be disposed in a landfill. All of the trash, litter and other debris removed by the screening process shall be disposed of in a sanitary landfill.

**MDNR Approval Letters and
Street Sweeping Sampling
Information**

Street Sweep MDNR 2007 letter
Street Sweep MDNR 2010 letter
Street Sweep Guidance/Beneficial
Use Approval
Street Sweep Sampling Protocol

Sampling and testing of the screened grit and dirt material is required by MDNR. At least one sample must be collected for every 500 cubic yards of screened material created. The guidance in the sampling protocol must be followed. This includes proper sample collection, preservation and analysis by MoDOT's chemical laboratory. Questions regarding the sampling protocol should be directed to the appropriate Environmental Specialist in Design Division (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) .

A copy of the sample results must be kept on file at the Maintenance building where the screenings were processed and a copy of the sample results needs to be provided to the Environment section of the Design Division.

Reason for Policy: 10 CSR 80 (<http://www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-80>) Solid Waste Management Regulations and RSMo 644 (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) Missouri Clean Water Law.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.5 Antifreeze

In the ANTIFREEZE WASTE MANAGEMENT GUIDE DNR Publication 114 (<http://dnr.mo.gov/pubs/pub114.htm>) , waste antifreeze is not a listed hazardous waste under the federal hazardous waste regulations in 40 Code of Federal Regulations (CFR) 261 Subpart D (<https://www.law.cornell.edu/cfr/text/40/part-261/subpart-D>) , but antifreeze may contain metals, particularly lead, and other substances that would cause it to be classified as a characteristic hazardous waste (40 CFR 261 Subpart C (<http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol27/xml/CFR-2012-title40-vol27-part261-subpartC.xml>)). Spent antifreeze from vehicle maintenance activities shall be collected and processed through a MoDOT antifreeze recycler. Antifreeze that is not reused in the vehicle must be sent to a recycler that accepts antifreeze. Antifreeze may never be discharged to storm sewers, septic systems, streams or on the ground.

Reason for Policy: 10 CSR 25-5.262 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-5.pdf>) , Hazardous Waste Management Program. Reduce antifreeze cost and disposal cost.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.6 Battery Management

All non-rechargeable batteries shall be managed as a solid waste. All rechargeable batteries shall be recycled with an approved recycler. Place cracked lead acid batteries in an acid safe container and contact your battery recycler or Environmental Specialist for specific information. All lead acid batteries should be inside secondary containment.

Reason for Policy: 40 CFR 266.80 (<http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol27/pdf/CFR-2011-title40-vol27-sec266-80.pdf>) Rechargeable batteries contain specific hazardous components such as nickel, cadmium, mercury, lead and sulfuric acid that cause the batteries to be a hazardous waste unless they are sent to a recycler, DNR publication 2058 (<http://dnr.mo.gov/pubs/pub2058.htm>) .

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.1.7 Disposal of Animal Carcasses

Animal carcasses found on MoDOT right of way shall be disposed of properly. Options for disposal are listed below under Accepted Disposal Practices. It is the supervisor's responsibility to choose the option that best suits the needs of their particular area. Disposal practices other than the accepted practices listed below will require State Maintenance Engineer approval.

Since the distribution of a 1987 letter of agreement, MoDOT has reported all deer killed on its right of way to the Missouri Department of Conservation (MDC). Each deer found on MoDOT right of way is to be reported to the district office and the information logged on the Deer Death Report Form and Map (Excel). The monthly log sheets are to be forwarded to the Maintenance Operations Functional Unit at General Headquarters by the 15th of the following month. The information will be forwarded to the MDC.

Accepted Disposal Practices

- Option 1 - Bury the carcass on highway right of way, provided it is not prohibited by local ordinances, and not in a waterway. The carcass should be buried at a minimum depth of 30 inches. Call 800-DIG-RITE (800-344-7483) prior to digging.

- Option 2 - Dispose of the animal carcass at a state-approved sanitary landfill, with the landfill operator's approval. There will likely be a fee associated with this option.
- Option 3 - Dispose of the carcass in an animal compost bin, which can be built at a maintenance facility. The procedures for building composting units shall meet the guidelines established by the University of Missouri as outlined in DNR publication 1250 (<http://dnr.mo.gov/pubs/pub1250.htm>) .
- Option 4 - Dispose of the carcass at a site and in a manner pre-approved by the MDC. Written approval from MDC is required.
- Option 5 - Where available, the carcass may be taken to a city or county animal control facility equipped to dispose of animal carcasses.
- Option 6 - Missouri law allows an individual who has struck and killed a deer with their vehicle to claim the deer carcass if written authorization to possess the deer is granted by a MDC Agent.
- Option 7 - Disposal of domestic animal carcasses by the owner is allowed provided the owner can be identified in a timely manner. If there are any identifying marks on the carcass, department personnel shall attempt to notify the owner.

Reason for Policy: RSMo 269 (<http://www.moga.mo.gov/mostatutes/chapters/chapText269.html>) Environmental Control 40 CFR 30 (http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr30_main_02.tpl) Federal Endangered Species Act, DNR Solid Waste Program and Water Pollution Control Program, MoDOT liability.

Effective Date: 6/1/99

Revision Date: 10/27/15

127.25.2 Hazardous Material Spills

127.25.2.1 Hazardous Material Spills (Roadway) by Others

MoDOT may become responsible for abandoned drums and containers, illegal dumped chemicals and accidental releases of hazardous materials on department property. When hazardous material spills and incidents are discovered on department property, MoDOT personnel shall follow the department's *Hazardous Materials Materials Response Plan* (<http://wwwwi/intranet/tr/irp/documents/IRP-Annex/ANNEX%20C%20-%20MoDOTS%20HAZARDOUS%20MATERIALS%20RESPONSE%20PLAN.doc>) to assure the material is handled properly. Reporting will be made to the Missouri Department of Natural Resources (MDNR) Environmental Emergency Response (EER) (573) 634-2436 in accordance with MoDOT procedures and Missouri RSMo 260.500 (<http://www.moga.mo.gov/mostatutes/stathtml/26000005001.html>) through 260.550.

Note: All unknown materials and containers will be treated as hazardous waste until proven otherwise. When an unknown material or a known hazardous material is discovered on the department's property, the District Hazardous Material Coordinator (DHMC) will be notified. The DHMC contact list can be accessed via SharePoint (http://sharepoint/sites/de/environmental_historic_pres/_layouts/WordViewer.aspx?id=/sites/de/environmental_historic_pres/Shared%20Documents/DISTRICT%20HAZARDOUS%20MATERIAL%20COORDINATOR%20CONTACT%20LIST.docx&Source=http%3A%2F%2Fsharepoint%2Fsites%2Fde%2Fenvironmental%5Fhistoric%5Fpres%2FShared%2520Documents%2FForms%2FAIItems%2Easpx&DefaultItemOpen=1&DefaultItemOpen=1) . The DHMC will call the MoDOT Environmental Section, (573) 526-4778, and the MDNR ERR 24 hour hotline number, (573) 634-2436, and report all information available to both. It will then be the responsibility of the MDNR ERR to determine if the material is hazardous. If DNR makes the declaration of a "hazardous substance emergency", they will (1) respond with their own resources, or (2) contact the contractor to respond to the incident. In either case, either party will conduct the initial containerization and remove the material from

the ROW to the nearest available storage facility, while any additional waste stream profile analysis is performed. MoDOT staff will arrange for any required shipment, disposal and reporting once waste stream profiling is complete.

In the event the abandoned container is neither leaking nor bulging, but is located within the clear zone, then the same contact protocol would apply as specified above. The only exception would be if MDNR were unable to respond immediately to the incident (due to lack of personnel availability, etc.), then MoDOT shall contact the appropriate emergency response contractor as specified in our Hazardous Substance Cleanup & Disposal Services OA contract (<http://archive.oa.mo.gov/purch/noa/c313018.pdf>) to ensure a timely response.

If a responsible party cannot be identified, then the response, characterization and disposal costs would become the responsibility of MoDOT (for either hazardous or non-hazardous substance responses). In those instances where an owner (responsible party) can be identified, MoDOT will seek cost recovery from the owner. If there has been a release, it will be necessary to coordinate with district Traffic personnel to write a permit to the responsible party or the emergency response contractor to allow cleanup on department property.

Note: Discovery of suspect mobile meth labs shall follow a variation of this process, as outlined in "Publication for Dealing with Mobile Meth Labs", due to the law enforcement aspect associated with this material.

Reason for Policy: RSMo 260.500 - 260.550 (<http://www.moga.mo.gov/STATUTES/C260.HTM>) Environmental Control 40 CFR 260 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfr/browse/Title40/40cfr260_main_02.tpl) - 261, MoDOT liability

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.2.2 MoDOT Hazardous Material Spills

Refer to MoDOT's Hazardous Materials Reporting Procedures Training

**Top Ten Spill
Prevention Items**

(<http://lnapp1/RI/RIManual.NSF/2cfd1a8d7c4213d7862562d900795ea7/5f52346dcc56c69b86256efc00652d9f?OpenDocument>) for guidance to reporting spills discovered along the highway. Hazardous material spills, and spills of other materials that leave MoDOT and enter waters of the state from MoDOT operations are the responsibility of the Department and will be reported to the MDNR ERR 24 hour hot line number immediately by the first Department employee to discover the spill. That employee will also notify their supervisor and the DHMC. An environmental specialist will also be notified of the spill. MoDOT employees will take immediate action to contain the release and clean up spilled material. Reporting will be made to the Missouri Department of Natural Resources (MDNR) Environmental Emergency Response (ERR) 573-634-2436 in accordance with MoDOT procedures and Missouri RSMo 260.500 (<http://www.moga.mo.gov/mostatutes/stathtml/26000005001.html>) through 260.550. If any of the material spilled comes in contact with waters of the state (creeks, springs, rivers, groundwater or ponds) the incident shall also immediately be reported to the National Response Center (<http://www2.epa.gov/emergency-response/national-response-center>) (NRC) at 800-424-8802. Incidents during the normal working day should be reported to the district as soon as possible. The District office should report to the Maintenance division as soon as possible. Should an incident occur after normal working hours, information should be telephoned to available maintenance personnel, as well as the pertinent Environmental Specialist in Design Division (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) . Design Division environmental contacts are also referenced in the maintenance facility SPCC plans.

Reason for Policy: RSMo 260.500 (<http://www.moga.mo.gov/mostatutes/stathtml/26000005001.html>) - 260.550 Environmental Control

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.3 Rest Areas

127.25.3.1 Rest Area Lagoon

All rest area lagoons shall have a current National Pollution Discharge Elimination System (NPDES) permit (<http://www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm>) . These permits require the department to submit discharge samples results on a regular basis to the Missouri Department of Natural Resources. The department will comply with all requirements of the (NPDES) permits. Application for renewal shall be submitted to MDNR every five years at least 180 days prior to the expiration date of the permit. All NPDES permits must be kept current. The NPDES permit describes the limits and requirements for each specific site. These requirements include the discharge limits, frequency of sampling, location of sampling and where sample results are to be submitted. All reporting requirements and sample collection will be in compliance with the NPDES permit. A copy of the permit shall be readily available to the person who conducts sampling and report submittal.

Reason for Policy: RSMo 644 (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) Water Pollution, Federal Water Pollution Control Act, Public Law 92-500, 92nd Congress

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.3.2 Rest Area Drinking Water

All rest areas that are using on-site wells as the source of drinking water shall have a valid operating permit issued by the Missouri Department of Natural Resources (MDNR) Public Drinking Water Program (PDWP). Operation and maintenance of these wells shall be in accordance with the MDNR-PDWP rules and regulations pertaining to drinking water supplies. Rest areas that are served by a municipal or public water supply shall adhere to specific rules and regulations established by the water supplier concerning operation and maintenance of the water distribution system. For additional information see EPG 127.25.4.3 Well Closures and EPG 127.25.3.2.1 Well Drilling.

Reason for Policy: 10 CSR 60-1.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c60-1.pdf>) Public Drinking Water

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.3.2.1 Well Drilling

The following procedures are established for well drilling:

- The district office shall request the Department of Natural Resources (DNR), Research and Technical Information Division, Rolla, Mo., to advise the district office concerning the expected depth of the proposed well and the estimated casing depth.
- The district office will use the "Standard Bid Form - Well Drilling" to receive bids for the work from only licensed well drillers.
- The district shall appoint an employee who is familiar with well drilling to make regular inspections of the work in progress.

For additional information see EPG 127.25.3.2 Rest Area Drinking Water and EPG 127.25.4.3 Well Closures.

Reason for Policy: RSMo 256.000-256.640 (<http://www.moga.mo.gov/mostatutes/chaptersIndex/ChaptIndex256.html>)

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.4 Water Management

127.25.4.1 Storm Water Regulations

MoDOT activities disturbing one acre or more of total land area require storm water permit authorization from the Missouri Department of Natural Resources (MDNR). This includes many construction and maintenance grading operations. The "MoDOT Operating Permit for Land Disturbance" from the MDNR authorizes these MoDOT grading activities so long as a site-specific storm water pollution prevention plan (SWPPP) has been developed for the activity prior to commencing land disturbance. Some minimal impact activities, such as narrow linear, strip or ribbon construction or maintenance activities such as cleaning or routine maintenance of roadside ditches are exempt from the storm water permit requirements. Contact the MoDOT Stormwater Compliance Coordinator (<http://mysite/Person.aspx?accountname=MODOTDS%5Ckopine1>) if you have questions.

Additional Form Available

Missouri State Operating Permit for Land Disturbance
(<http://dnr.mo.gov/env/wpp/permits/issued/docs/R100000.pdf>)

Additional Information

June 2012 Changes in the MO State Operating Permit for Land Disturbance

Note: The MDNR defines storm water as storm water runoff, snow melt runoff, surface runoff and drainage.

Reason for Policy: 10 CSR 20-6.200 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>) , page 44, Missouri Department of Natural Resources, Water Pollution Control Program

Effective Date: 3/31/12

Revision Dates: 10/27/15

127.25.4.2 Maintenance Operations Impacting Streams

Activities in most streams are regulated by the U.S. Army Corps of Engineers (COE) and require 404 Permits (http://epg.modot.org/index.php?title=127.4_Wetlands_and_Streams) . Districts shall contact the local COE Office or their wetland specialist prior to beginning any work in streams. The necessary permits for removal or placement of materials in the stream shall be obtained from the COE prior to conducting the work, unless emergency authorization has been given by the COE to do the work. Technical assistance can be obtained from the Wetland Specialist (http://sharepoint/sites/de/environmental_historic_pres/Wetlands/Wetland%20Staff%20Assignments.pdf) in applying for a COE 404 permit. (Use the Request for Environmental Services Database (<http://res/Pages/Start.aspx>) for STIP jobs or contact your wetland specialist for typical maintenance projects.)

For additional information see Activities Requiring Permits
(<http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/Activities%20Requiring%20Permits%20Fact%20Sheet%20-%20Apr%202015.pdf>) .

Reason for Policy

The specific regulatory authority for the COE is based on the following laws: Clean Water Act-Section 404 (<http://water.epa.gov/lawsregs/guidance/wetlands/sec404.cfm>) ; Water Quality Certification-Section 401 (<http://dnr.mo.gov/env/wpp/401/index.html>) .

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.4.3 Well Closures

The proper abandonment of water wells is imperative to the protection of ground water. All wells not in use or planned to be used shall be properly closed to comply with the Water Drillers Act. A permitted water well, pump installer, monitoring well or heat pump installer shall oversee the closures. Contact an environmental specialist (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) for guidance in well closures. See EPG 127.25.3.2 Rest Area Drinking Water and EPG 127.25.3.2.1 Well Drilling.

Reason for Policy: RSMo 256.000 - 256.637 (<http://www.moga.mo.gov/mostatutes/chaptersIndex/ChaptIndex256.html>)
Geology, Water Resources and Geodetic survey 10 CSR 23–3.110
(<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c23-3.pdf>)

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.5 Containers

127.25.5.1 Fuel Storage Tanks

Underground fuel storage tanks and their piping are required to have operational, approved leak, corrosion and overfill protection and, when necessary, vapor controls. A tank registration form shall be submitted to the Missouri Department of Natural Resources within 30 days of bringing a tank into use and when a change is made to the tank or ancillary equipment.

All above ground tanks shall be labeled as to their contents. Any facility that has any kind of oil storage capacity (55 gallons or larger containers) that totals 1320 gallons aggregate, is required to have a SPCC plan. All above ground tanks containing oil-based product are required to have secondary containment with sufficient capacity to hold the largest container plus the maximum expected rainfall. The plan must be made available to an EPA inspector if requested during an on-site inspection.

Tanks that exceed the minimum reportable quantity of hazardous material require an NFPA 704 Hazard Communication sign. For additional information see EPG 127.25.5.1.1 Fuel Pump Calibration.

Reason for Policy: 40 CFR 112 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr112_main_02.tpl)

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.5.1.1 Fuel Pump Calibration

Fuel pumps shall be calibrated annually except for those that have a history of reporting errors, or when normal tracking of petroleum usage indicates that there is a problem. Those pumps that are showing unacceptable variances should be calibrated as needed and corrections made until the problem is solved or the pump is replaced.

For additional information see EPG 127.25.5.1 Fuel Storage Tanks.

Reason for Policy: MoDOT inventory requirement to eliminate petroleum theft.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.5.2 Herbicide Containers

Instructions on container labels shall be followed for storage, use and disposal of containers and their contents. Empty herbicide containers shall be triple rinsed with water and the rinsate reused in mixing operations. The container shall be returned to the supplier or disposed of in a permitted sanitary landfill or sent to a recycler. To dispose of containers containing some herbicide material or an out of specification herbicide, contact an Environmental Specialist (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) for assistance.

Reason for Policy: RSMo 260 (<http://www.moga.mo.gov/mostatutes/chapters/chapText260.html>) Environmental Control, RSMo 281.220 - 281.310 (<http://www.moga.mo.gov/mostatutes/stathtml/28100002201.html>) Pesticides

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.5.3 Empty Drums and Containers

All empty (less than an inch of product remaining) containers, including 55 gallon drums, shall have all openings closed with containers stored on their sides to prevent rainwater from mixing with product residues.

Reason for Policy: 40 CFR 260 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr260_main_02.tpl) -261. Prevent the formation of large quantities of used products that require complying with Hazardous Waste Regulation

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.6 Environmental Compliance

127.25.6.1 Threatened or Endangered Species

All MoDOT Maintenance activities shall be conducted in a manner that does not impact any federally or state listed threatened or endangered species or their critical habitat. If an activity will impact a listed species, MoDOT must conduct formal consultation with the U.S. Fish and Wildlife Service and obtain a Biological Opinion prior to conducting the activity.

Prior to starting any new activities (mowing, spraying, etc.) or changing methods for conducting established activities maintenance personnel should contact Chris Shulse at (573) 526-6678 or Bree McMurray at (573) 526-0606 to determine if the activity will impact any rare species or critical habitat.

Reason for Policy: 50 CFR 17 (<http://www.gpo.gov/fdsys/pkg/CFR-2002-title50-vol1/pdf/CFR-2002-title50-vol1-sec17-3.pdf>) Endangered Species Act, 3 CSR 10-4.111 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/3csr/3c10-4.pdf>) , State Endangered Species Rule

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Revision Dates: 10/27/15

127.25.6.2 Tier II Reporting

A copy of the Tier II Reporting form shall be clearly posted on a bulletin board in each maintenance building. Tier II refers to state and federal Emergency Planning Community Right-to-Know Act (EPCRA) (<http://dnr.mo.gov/env/hwp/enf/epcra.htm>) .

Reason for Policy: 292.605 (<http://www.moga.mo.gov/mostatutes/stathtml/29200006051.html>) Missouri Emergency Planning and Community Right-to-Know Act

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.7 Hazardous Waste

127.25.7.1 Hazardous Waste Compliance

The department shall comply with all Federal Resource Conservation and Recovery Act (RCRA) and Missouri Department of Natural Resources (MDNR) regulations regarding waste materials. This includes the generation, transportation, storage, and disposal of hazardous waste. The Department of Natural Resources' Hazardous Waste Program's Compliance and Enforcement Section (<http://dnr.mo.gov/env/hwp/enf/>) works to ensure compliance with hazardous waste laws. If you have reason to think your site or location is producing a hazardous waste you should contact the district Hazardous Material Spill Coordinator or an Environmental Specialist in Design division.

Reason for Policy: 10 CSR 25-1.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-1.pdf>) and 10 CSR 25-14.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-14.pdf>) , Missouri Hazardous Waste Management Regulations, RSMo. 260 (<http://www.moga.mo.gov/mostatutes/chapters/chapText260.html>) , 40 CFR 260 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr260_main_02.tpl) - 265 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr265_main_02.tpl) .

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Revision Dates: 10/27/15

127.25.7.2 When a Product Becomes a Waste

Generators must use products for their intended purpose. A product can become a waste if a facility does not properly store the material or the product is beyond its shelf life. If a generator is no longer using the product, it must be properly disposed and not abandoned or stored. A facility storing a material that is a hazardous waste must comply with Missouri's hazardous waste regulations.

Missouri Department of Natural Resources has produced the Waste or Product Determination Guidance publication 1349 (<http://dnr.mo.gov/pubs/pub1349.htm>) to provide criteria to consider when a product becomes a waste.

Reason for Policy: 10 CSR 25-1.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-1.pdf>) and 10 CSR 25-14.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-14.pdf>) , Missouri Hazardous Waste Management Regulations, RSMo. 260 (<http://www.moga.mo.gov/mostatutes/chapters/chapText260.html>) , 40 CFR 260

(http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr260_main_02.tpl) - 265 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr265_main_02.tpl) .

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Revision Dates: 10/27/15

127.25.7.3 Lead Based Paint Abatement

The following activities involving lead paint abatement currently require licensing of personnel and project notification to the Department of Health & Senior Services (DHSS):

1. Any testing or identification of lead-based paint on the surface of structures,
2. Determinations of whether a painted structure is a lead hazard because of deteriorated paint, and
3. Performance of lead abatement activities.

MoDOT has entered into a Memorandum of Understanding (MOU)

(http://www.modot.org/business/contractor_resources/documents/MOUBetweenMoDOTandDHSS.pdf) with the DHSS that stipulates the above requirements will be followed for all MoDOT-let lead abatement projects. Specific requirements include:

1. All contractors and subcontractors performing lead abatement activities must be licensed as Missouri lead abatement contractors. Additionally, employees of the contractors performing lead abatement activities are required to be licensed as Missouri lead abatement supervisor(s) and/or workers,
2. The MoDOT Resident Engineer (RE) shall provide notification to DHSS through the submittal of a lead abatement project funding agency notification form which is required to be submitted 10 days prior to the onset of lead abatement projects, and
3. The contractor shall also provide notification to DHSS (http://www.modot.org/business/contractor_resources/documents/ContractorInformationPacketofLeadWorkActivities.pdf) through the submittal of a lead abatement project notification form which is required to be submitted 10 days prior to the onset of lead abatement projects.

Lead based paint removed from any surface is considered a hazardous waste. Lead based paint removed from steel structures or buildings shall be containerized, labeled and disposed of at an approved hazardous waste facility. In some instances, the lead paint and blast material may be recycled and exempted as a hazardous waste. Contact an Environmental Specialist (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) for assistance or additional information.

Reason for Policy: RSMo. 260-265 (<http://www.moga.mo.gov/mostatutes/chapters/chapText260.html>) and 40 CFR 268 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr268_main_02.tpl) , 10 CSR 25-4.010 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-4.pdf>) , Hazardous Waste Management, RSMo 701.300-701.332 (<http://www.moga.mo.gov/mostatutes/stathtml/70100003001.html>) and 19 CSR 30-70.600(19) (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/19csr/19c30-70.pdf>) , Lead Abatement and Assessment Licensing, Training Accreditation.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.7.4 Equipment Cleaning Fluids

The department shall make every effort to purchase fluids that do not exhibit any characteristics of hazardous materials which would result in the generation of a hazardous waste when used. These characteristics include the following:

- A flash point of 140° Fahrenheit or less
- Corrosive, a pH of equal to or less than 2 or equal to or greater than 12.5
- Reacts violently with water
- Listed as a toxic hazardous waste
- Products containing chlorinated components

All efforts are made to identify products that are not only safe for the environment but our employees also. The approved products list (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Waste%20Minimization%20Info/Approved%20environmentally%20friendly%20products.docx) outlines those products which meet the objectives for both environmental compliance and worker safety. Some product review (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Waste%20Minimization%20Info/CRC%20GREEN%20Product%20Review.pdf) information is also available.

Reason for Policy: Clean Water Act, Solid Waste Law, Hazardous Waste Law. MoDOT desires to produce as few hazardous wastes as possible. Chlorinated solvents pose a health risk to employees. Contact your Environmental Specialist (http://sharepoint/sites/de/environmental_historic_pres/Hazardous%20Waste1/Haz%20Waste%20Staff%20Assignments.pdf) for more information.

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Revision Dates: 10/27/15

127.25.7.5 Used Oil

The department shall store used oil, prior to shipment off-site, in containers that are in good condition, void of leaks and clearly labeled as used oil. All oil storage tanks are required to be included in the SPCC plan and have secondary containment with sufficient capacity to hold the largest container plus the maximum expected rainfall.

NOTE: Used petroleum fluids such as gear lube, transmission oil and hydraulic oil are defined as used oils. **Mixing solvents or antifreeze with used oil is strictly prohibited.** Records of contracts, shipper name and identification number, dates of shipment, quantity and type of oil and the processor's name and permit number shall be kept on file. Additional information on regulation and disposal of used oil (<http://dnr.mo.gov/pubs/pub153.htm>) is available through DNR.

Reason for Policy: 10 CSR 25-11 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-11.pdf>) , Hazardous Waste Program.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.7.6 Hazardous Waste Reporting

The department must file a quarterly summary report (<http://dnr.mo.gov/forms/780-1097.pdf>) for all MoDOT hazardous waste shipments from the large quantity generator sites with the Missouri Department of Natural Resources (MDNR). Annual reports are required for small quantity and one-time shipment sites. Following receipt of a copy of the hazardous waste manifest from the hazardous waste disposal facility, the Environmental Specialist shall forward a copy of the manifest to both the district hazardous materials spill coordinator and Central Office Design. If the manifest is not received from the hazardous waste facility within 45 days, an exception report must be filed with MDNR.

Reason for Policy: 10 CSR 25-5.262 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-5.pdf>) Missouri Hazardous Waste Management Regulations.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8 General

127.25.8.1 Open Burning

There shall be no open burning of trade waste or refuse generated by the department at any of its facilities except for open burning of tree trunks, limbs and vegetation at the point of generation, unless permitted. Restrictions concerning open burning:

- 10 CSR 10-2.100 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-2.pdf>) Kansas City Metropolitan Area
- 10 CSR 10-3.030 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-3.pdf>) Out State Missouri
- 10 CSR 10-4.090 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-4.pdf>) Springfield Green County Area
- 10 CSR 10-5.070 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-5.pdf>) St. Louis Metropolitan Area

Contact individual county planning and zoning offices for areas requiring compliance. Trade wastes are defined as solid, liquid, or gaseous material resulting from construction or the prosecution of any business, trade or industry or any demolition operations including, but not limited to cardboard, plastics, cartons, grease, oil, chemicals or cinders. Trade wastes include scrap lumber and wooden shipping pallets. Refuse is defined as garbage, rubbish, trade waste, leaves, salvageable material, agricultural wastes or other wastes.

Reason for Policy: Comply with State Regulations Air Pollution Control Law and Regulations 10 CSR 10-6 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-6a.pdf>) , Air Pollution Control Program RSMo 643 (<http://www.moga.mo.gov/mostatutes/chapters/chapText643.html>) .

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.2 Lead Mining Chat

Lead mining chat encapsulated in asphalt or concrete, may be used for highway construction. Special requirements apply to chat from the Tri-State Mining District (Jasper, Newton, Lawrence and Barry Counties in southwest Missouri) as referenced in . Refer to Missouri Standard Specifications for Highway Construction 1001.12 (http://www.modot.org/business/standards_and_specs/Sec1001.pdf) . For additional information see EPG 127.25.8.2.1 Abrasives.

Reason for Policy: MDH Health Study established to protect the health of workers and persons living along roadways. Air Pollution Control Law and Regulations 10 CSR 10-6, Air Pollution Control Program, RSMo 643 (<http://www.moga.mo.gov/mostatutes/chapters/chapText643.html>) , 40 CFR 260-265 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr260_main_02.tpl) , 40 CFR 268 (http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr268_main_02.tpl) , RSMo 260 (<http://www.moga.mo.gov/mostatutes/chapters/chapText260.html>) , 10 CSR 25-4.10 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-4.pdf>) .

Effective Date: 8/28/2015

Revision Dates:

127.25.8.2.1 Abrasives

The maximum aggregate size for abrasives shall not exceed 3/8 inch. Lead mining chat (within established limits) may be used for general maintenance purposes. See 127.25.8.2 Lead Mining Chat, for requirements for chat from the Tri-State Mining District. See Missouri Standard Specifications for Highway Construction Sec 1001.12 (http://www.modot.mo.gov/business/standards_and_specs/Sec1001.pdf) for established lead limits in mining by-product aggregates.

For additional information see EPG 127.25.8.2 Lead Mining Chat.

Reason for Policy: Experience has shown that an aggregate size larger than 3/8 in. is ineffective and contributes to broken windshields. Mine tailings may contain environmentally unsafe materials.

Effective Date: 6/1/99

Revision Dates: 6/17/03, 9/25/15

127.25.8.3 Sewage Disposal System

Where a sewage system at a present maintenance site is being modified or when a sewage system is being designed for a new facility, the department shall consider the feasibility of connecting onto a publicly owned waste water treatment plant (POTW). If it is not economically feasible to connect to a POTW, an on-site sewage treatment system shall be considered. The required construction permit (<http://dnr.mo.gov/forms/780-2189-f.pdf>) shall be obtained from the Missouri Department of Health or the Missouri Department of Natural Resources, Water Pollution Control Program, prior to construction. For additional information see EPG 127.25.8.3.1 Industrial and Domestic Waste Waters on Right of Way.

Reason for Policy: RSMo 701.025 - 701.059 (<http://www.moga.mo.gov/mostatutes/stathtml/70100000251.HTML>) State Standards, RSMo 644 (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) Water Pollution Control Program, Federal Clean Water Act 33 U.S.C. 1251-1387 (<http://www.gpo.gov/fdsys/granule/USCODE-2011-title33/USCODE-2011-title33-chap26-subchapI-sec1251/content-detail.html>) .

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.3.1 Industrial and Domestic Waste Waters on Right of Way

Sewage and waste shall be disposed of by discharging into a sewer system regulated pursuant to chapter 644, RSMo, or shall be disposed of by discharging into an on-site sewage disposal system operated as defined by rules promulgated pursuant to sections 701.025 to 701.059, RSMo. Any person installing on-site sewage disposal systems shall be registered to do so by the Missouri Department of Health and Senior Services (<http://health.mo.gov/index.php>) .

Private homeowners are regulated by the Missouri Department of Health and Senior Services. The Missouri Department of Health and Senior Services is to be contacted when wastewater discharge from private homeowners is found on right of way. If a property owner requires assistance in containing effluent, they should be directed to the Department of Health for assistance.

Commercial businesses and industries are regulated by MDNR (<http://dnr.mo.gov/>) . When wastewater discharge from a regulated entity is discovered on MoDOT right of way, the Environmental Specialist will contact MDNR to determine if the commercial business or industry has a valid operating permit issued by MDNR to discharge effluent.

The Environmental Specialist will request MDNR to take whatever legal action necessary concerning any business or industry that does not have a valid permit from MDNR to discharge effluent to the highway right of way.

For additional information see EPG 127.25.3.1 Rest Area Lagoon, EPG 127.25.8.3 Sewage Disposal System and EPG 127.25.8.3.2 System Attachments by Others.

Reason for Policy: RSMo. 701 (<http://www.moga.mo.gov/mostatutes/chapters/chapText701.html>)

Effective Dates: 6/1/99

Revision Dates: 12/27/12, 10/27/15

127.25.8.3.2 System Attachments by Others

Piped connections to the drainage system are prohibited unless approved by the district engineer. In situations where connections are permitted, plans and specifications are required to meet MoDOT specifications. If approved, the work shall be done under an approved permit and/or a Missouri Highway and Transportation Commission Agreement. Attachments to bridges and large box culverts that qualify as bridges should be referred to the Bridge Division for review. Connections to MoDOT's drainage system should be reviewed for compliance under MoDOT's MS4 stormwater permit.

For additional information see EPG 127.25.8.3.1 Industrial and Domestic Waste Waters on Right of Way and EPG 127.29.5 MCM 3.

Reason for Policy: Protect MoDOT from possible litigation. Protect the current drainage system.

Effective Date: 6/1/99

Revision Dates: 12/27/12, 10/27/15, 11/30/15

127.25.8.4 Vehicle Placarding

Department vehicles transporting regulated quantities of hazardous waste shall be placarded. MoDOT is exempt from placarding asphalt distributors and product shipments.

Reason for Policy: 49 CFR 105 (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=68a3027b802cf7b31b57de42b86e7dee;rgn=div5;view=text;node=49%3A2.1.1.1.2;idno=49;cc=ecfr>) -177 U.S.DOT, 10 CSR 25-6.010 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-6a.pdf>) , Missouri Hazardous Waste Regulations

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.5 Fugitive Dust

The department shall operate in a manner that minimizes and/or prevents fugitive dust from going beyond MoDOT property lines or off right of way. Dust from operations such as concrete sawing, crack and joint repair, street sweeping and roadway rotomilling shall be contained on department property.

Reason for Policy: 10 CSR 10-6.170 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-6a.pdf>) , Air Pollution Control Program. Provide driving conditions free from dust obstructions.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.6 Vehicle Painting

A permit may be required for vehicle painting using power spray operations at maintenance buildings. When required, such permits shall be acquired prior to initiation of painting operations. Painting with a brush or touch up painting with an aerosol can does not require a permit.

Reason for Policy: 10 CSR 10-6.020 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c10-6a.pdf>) , Air Pollution Control Program

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.7 Environment Site Assessment

All properties to be disposed of or purchased shall have an environmental review conducted prior to selling or purchasing. Environmental reviews are conducted for the benefit of the department to identify existing or potential environmental liability that may be present. Environmental reviews shall be conducted by the Environmental and Historic Preservation section of Design.

Reason for Policy: Reduce MoDOT liability.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.8 Salt Runoff

Measures shall be implemented that will eliminate damage to adjacent property from salt runoff generated from maintenance facilities. Salt and salt mix shall be stored under waterproof cover. For additional information see EPG 127.25.8.8.1 Storage.

Reason for Policy: RSMo 644 (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) Water Pollution, Federal Clean Water Act 33 U.S.C. §§ 1251 (<http://www.gpo.gov/fdsys/granule/USCODE-2011-title33/USCODE-2011-title33-chap26-subchapI-sec1251/content-detail.html>) -1387. There have been a number of incidents in which salt, salt brine, liquid calcium chloride runoff, or spillage from the storage of salt has caused environmental damage. Storm water runoff from salt piles, brine and calcium storage tanks and mixing areas has proven to be detrimental to aquatic life and vegetation.

Effective Date: 6/1/99

Revision Dates: 10/27/15

127.25.8.8.1 Storage

Chemicals and stockpiles of treated abrasives are to be stored in a manner to prevent loss of material and prevent damage to State or private property. All bulk salt shall be stored inside covered storage structures. Asphalt pads are to be constructed under and in front of all storage facilities. Mixed materials shall be covered when not in use and between storm events.

For additional information see EPG 127.25.8.8 Salt Runoff.

Reason for Policy: Prevent loss of material and drainage to private property. Most salt runoff damage comes from mixed piles.

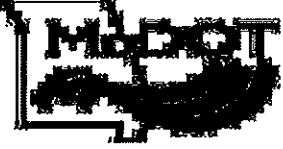
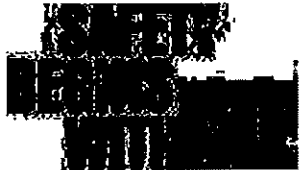
Effective Date: 6/1/99

Revision Dates: 6/17/03, 10/27/15

Retrieved from "http://epg.modot.org/index.php?title=127.25_Maintenance_Environmental_Policies"

Category: 127 MoDOT and the Environment

- This page was last modified on 30 November 2015, at 15:52.

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Backing	
	<u>Effective</u>	March 1, 2014	
	<u>Supersedes</u>	January 1, 2010	

POLICY STATEMENT

To eliminate backing incidents, a spotter shall be utilized when another employee is available and there is a significant blind spot and/or in a confined or tight area.

DEFINITIONS

1. Circle Check – complete walk around of vehicle or equipment checking the surroundings for hazards.
2. CMV – Commercial Motor Vehicle

POLICY REQUIREMENTS

1. The driver/operator shall complete a circle check of all CMVs, heavy equipment and/or light duty fleet vehicles with restricted view (blind spots) from windows and mirrors.
2. The driver should conduct a circle check when operating a passenger and light duty fleet vehicles with full view from all windows and mirrors.
3. Whenever another Department employee is available to assist a driver, that employee shall assist as a spotter to guide the driver when backing a vehicle:
 - a. With a significant blind spot to the rear of the vehicle
 - b. When there is equipment or other obstacle's that could cause an incident
 - c. In a confined or tight area
 - d. With limited overhead clearance
4. A spotter shall be used when backing a trailer or hitch mounted equipment:
 - a. With a significant blind spot to the rear of the vehicle
 - b. When there is equipment or other obstacle's that could cause an incident
 - c. In a confined or tight area
 - d. With limited overhead clearance
5. Backing should be kept to a minimum.

PROCEDURES

1. The driver and/or spotter are responsible for all incidents whether the vehicle is moving forward or backward.

2. The driver should position/park the vehicle or equipment so that it can be driven forward, when possible, to minimize backing.
3. Remain properly seated when backing a vehicle.
4. Use both side mirrors when backing and constantly check them for changing conditions.
5. Use a spotter when backing, if one is available.
6. For vehicles equipped with backup alarms, allow the back-up alarm to beep 5 times (approximately 5 seconds) before moving backwards. This will give anyone time to move out of the way before you back.
7. Back slowly, stop when necessary to check all mirrors and verify that all conditions have not changed.
8. Avoid backing long distances. It is much safer to turn around and drive forward.

TRAINING

1. Gear Up - Workzone, Flagger Training (LMS code 24487) to be completed within the first week of hire.
2. Gear Up - Basic Safety Training (LMS code 24492) to be completed within the first week of hire.
3. Gear Up – Dump Truck Training (LMS code 24487) to be completed within the first week of hire.

CROSS REFERENCES

Risk Management Manual-Vehicle Spotter Procedures

Health Hazards

Employees may be exposed to various occupational health hazards as a normal part of their work environment. Employees could be exposed to the following: silica, lead [29CFR 1910.1025]; asbestos [29CFR 1910.1001]; hazardous materials [29CFR 1910 Subpart H]; bloodborne pathogens [29CFR 1910.1030]; communicable disease or components of an active or inactive meth lab [29CFR 1910.142(I)].

Medical surveillance programs and personal protective equipment, based on current occupational health standards, are provided for employees who are routinely exposed to lead and asbestos.

Employees shall not pick up syringes, bandages or other medical waste.

Anyone finding equipment or supplies that are a potential health hazard, i.e. drugs, hazardous waste etc., shall leave the area immediately and report their findings to their supervisor who will contact the appropriate law enforcement officials.

Abandoned buildings or vehicles on department right-of-way should be approached with caution. In addition to clandestine methamphetamine labs, other dangers could be present. Chemical suicide is a growing trend in the way people commit suicide in a vehicle. An individual can mix two or more chemicals and the violent reaction causes death in under a minute. This could be a hazard for our road crews if they come upon a vehicle with a person slumped over. Examine the inside of the car, call 911 and wait for emergency personnel to open the door.

If any suspicious activity is observed, or a vehicle or package is found, the employee should leave the area immediately and report their findings to their supervisor.

Boiler & Pressure Vessel Safety

Pay your Boiler & Pressure Vessel Invoice Online

(https://secure.collectorsolutions.com/csi_ecollections_portal_ui/interchange.aspx?CIID=nb23ws76&STE=2)

(Follow on-screen instructions. A minimal convenience fee is applied based on method of payment. You may cancel prior to payment authorization.)

XML Validation Tool for Electronic Inspection Report Submission

- **Follow** these **instructions (boiler-validation-instructions.php)** to save and rename the following files to be used for data submission.
- **Save** the following files to your hard drive by right-clicking on the file name and save to a folder
Validation Tool (//documents/SchemaValidator.txt)
XML Schema (//documents/MOInspection-02-22-2011.xsd)
- **E-mail** (<mailto:dawn.urban@dfs.dps.mo.gov>) for electronic submission of Boiler & Pressure Vessel Inspections
- **Enter** EI Submission File in the subject line of your email

To help ensure the safety of the citizens of Missouri, the Division of Fire Safety issues approximately 20,000 certificates of inspection each year for boilers and pressure vessels in service throughout the state. An estimated 2,000 of these units are found to be in dangerous condition each year. Division inspectors conduct inspections on uninsured boilers and pressure vessels and provide consultation for the owners and operators of uninsured units. Companies insuring boilers or pressure vessels may conduct inspections at locations they insure.

Effective Nov. 12, 1986, boilers, hot water heaters and pressure vessels are required to be constructed to the American Society of Mechanical Engineers (ASME) Boiler & Pressure Vessel Codes and registered with the National Board of Boiler and Pressure Vessel Inspectors. There are exemptions due to size and type of facility. For example, residences with fewer than six families are exempted but any common buildings, such as recreation centers or pool heaters, are not exempt.

Boilers and pressure vessels installed prior to Nov. 12, 1986, are exempted from ASME construction requirements but not from the requirements for the controls and safety devices. Used objects may not be reinstalled unless they are ASME constructed and National Board registered. Variances may be obtained but require approval of the Missouri Board of Boiler and Pressure Vessel Rules, which meets once per quarter.

Installers of all boilers and pressure vessels falling within the scope of the act are required to obtain an installation permit from the Division of Fire Safety prior to beginning the installation.

Certificate inspections are the responsibility of the owner, regardless of contractual agreements. It is a Class A misdemeanor to operate an object without a valid inspection certificate and fines can reach up to \$5,000 per day of violation. Boiler and machinery insurance companies may conduct inspections at locations they insure. The certificate inspection frequency varies from one to two years, depending on the use of an object. In general, every object has a two year inspection frequency except boilers that generate steam over 15 pounds per square inch (psi). These objects require a biennial internal inspection of the water side.

1. Hot water heaters with heat input greater than 200,000 British thermal units per hour (Btu/hr)
2. Hot water heating boilers.
3. Steam heating boilers.
4. Steam process boilers. This includes steam kettles, laundry boilers, all process boilers, hot oil or other liquid type boilers, power boilers, locomotives (including amusement types), etc.

5. Air compressor tanks greater than 10 cubic feet in volume or operating at more than 200 psi.
6. Pool heaters with heat input greater than 200,000 Btu/hr.

Related U.S. Consumer Product Safety Commission News

NTI Trinity Gas-Fired Hot Water Boilers Recalled Due to Carbon Monoxide Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07151.html>)

TAC LLC Recalls "Erie Boiler Boss" Boiler Controls for Scald Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07089.html>)

Crown Boiler Co. Recalls Boilers Due to Carbon Monoxide Poisoning Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07063.html>)

Weil-McLain Recalls Ultra Series Boilers for Carbon Monoxide Hazard
(<http://www.cpsc.gov/cpscpub/prerel/prhtml07/07020.html>)

Documents / Forms

- Boiler Variance Form
(/documents/forms/MO_815-F0011.pdf)
- CSD-1 Reporting & Recommended Forms

(/documents/forms/MO_815-F0009.pdf)
- Guide for Completing Installation Permit Application
(/programs/bpv/guide-complete-installation-permit.php)
- Boiler & Pressure Vessel Installation Permit Application
(/documents/forms/MO_815-F0008.pdf)
- Boiler & Pressure Vessel Installation Permit Application
(/documents/forms/MO_815-F0085.doc)
- Inspectors Application for New Commission or Renewal
(/documents/forms/MO_815-F0010.pdf)

Laws and Regulations

- Boiler & Pressure Vessel State Statute RSMo 650.200 through 650.295
(<http://www.moga.mo.gov/mostatus/stat.html#65000002051.html>)
- Boiler & Pressure Vessel Code of State Regulations 11 CSR 40-2.010 through 40-2.060
(<http://s1.sos.mo.gov/cmsimages/Boiler%20Code%20of%20State%20Regulations/11csr/11c40-2.pdf>)
- 2012 Legislative Changes
(/documents/2012-leg-updates.pdf)

Frequently Asked Questions

- Boiler & Pressure Vessel Safety
(/about/faqs.php#boiler-pressure-vessel-inspections)

Related links

- Boiler & Pressure Vessel Licensed Inspectors
(/programs/bpv/bpv-licensing.html)
- Checklist for Starting Boilers After a Lay-Up Period
(/programs/bpv/checklist-boiler-startup.php)
- Boiler & Pressure Vessel Hazards
(/safetytips/natural-gas.php)
- Carbonated Beverage Carbon Dioxide (CO2) System Safety
(/safetytips/carbondioxide.php)
- Recovering Boiler Systems After a Flood Safety Tips
(/programs/bpv/recovering-boiler-after-flood.php)
- Weil-McLain 2014 Safety Recall
(<http://www.cpsc.gov/en/Recalls/2014/Weil-McLain-Recalls-Ultra-Series-Boilers/>)

Chapter : 2 Safety Procedures

Section: 209 Building Safety Inspection Procedure

Sub- Section:

Policy/Procedure #:

Effective Date: 06/01/2010

Supersedes: 04/01/2004

Dated:

INTRODUCTION

The purpose of MoDOT's building safety inspection procedure is to evaluate annually the condition of our operations buildings and the materials and equipment used and stored in them. This procedure will help the department identify safety hazards, correct deficiencies and, where necessary budget, for future improvements.

PROCEDURE

All designated buildings shall be safety inspected on an annual basis. District and Division Risk and Benefits Management/Safety Offices shall maintain documentation of the building inspection.

All deficiencies should be reviewed and evaluated by appropriate District management. Deficiencies that cannot be corrected in a timely manner should be documented and an *Action Plan* for eliminating the hazards should be developed and the established timetable followed. Any safety hazard, which poses an imminent danger to the building occupants, shall be corrected immediately and documented.

THE ANNUAL BUILDING INSPECTION CHECKLIST

The purpose of the Annual Building Inspection Checklist is to identify inadequate safety procedures and safety hazards which may be found in MoDOT buildings. It is intended to be used as a minimum standard for safe building conditions. Districts and Divisions may impose stricter standards, but are not permitted to drop below the minimum standards set forth in this Procedure.

The attached Annual Building Inspection Checklist Form (Exhibit A) should be completed by the District or Division Risk and Benefits Management/Safety Office. A copy of the inspection findings shall be given to the supervisor whose duty it will be to address any deficiencies. The original completed form shall be kept in the files of the District or Central Office Safety Officer and a copy shall be forwarded to the District or Central Office Facilities Management Office. Facilities Management will note all deficiencies that require a significant outlay of capital improvement funds so that they may budget accordingly for needed repairs or replacements.

A follow up inspection is required when deficiencies that place employees in imminent danger are identified to ensure that immediate corrective action was taken.

The Building Inspection Form (Exhibit A) list required areas of safety compliance and safety hazards commonly found in buildings. These common safety concerns are found under twelve major categories. To better inform you of what is being requested of you in the inspection we will examine each area to:

1. Know what criteria must be met to ensure that the proper safety procedures are being followed;
2. State what constitutes an acceptable safe condition, and,
3. Reference any applicable Department Safety Policies, Rules and Regulations and any major safety code, such as the National Fire Protection Association's (NFPA) Code 101, Life Safety Code.

A. First Aid and Emergency Preparedness

1. **Certified First Aid/CPR person available on each crew** - Department Safety Policy recommends that at least two persons in each organizational unit receive and successfully be certified in American Red Cross Standard First Aid and CPR Training. For further information regarding this subject please refer to Safety Policies, Rules and Regulations, Employee Handbook, Section 3.1, *American Red Cross CPR and First Aid Training*.
2. **First Aid Kit In Vehicles and Buildings As required** - Department Safety Policy requires all state vehicles, facilities and offices as identified in the Safety Policies, Rules and Regulations, Employee Handbook, Part III. General Safety Responsibilities and Duties For All Employees, Section E. *First Aid* have installed a first aid kit or cabinet.
3. **First Aid Kits Properly Stocked** - First aid cabinets and kits should be properly stocked at all times with a variety of the items identified in the Safety Policies, Rules and Regulations, Employee Handbook, Part III. General Safety Responsibilities and Duties For All Employees, Section E. *First Aid*.
4. **Emergency Eyewash Station Available With Unobstructed Access** - Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the body shall be provided within the work area for immediate emergency use. No materials, tools or equipment shall be placed in such a manner as to obstruct free and clear employee access to the eyewash station. For specific information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart K, *Medical and First Aid*, 1910.151.

5. **Emergency First Aid Poster Displayed** - American Red Cross First Aid & CPR Poster is visibly displayed next to the first aid cabinet.
6. **Emergency Numbers Posted** - Emergency telephone numbers shall be posted next to the telephone in each building.

A single emergency number (911 or 9-911) in most areas is all that is needed for summoning the police, the sheriff, emergency medical services and fire fighting personnel.

In rural settings several different emergency phone numbers may be needed, such as:

- Municipal police, county sheriff's office and highway patrol
- Municipal or rural full-time or voluntary fire departments
- Municipal or rural full-time or voluntary Emergency Medical Services (EMS)
- The nearest poison control center
- The emergency number to summon the Hazardous Materials Coordinator when hazardous materials are discovered

All phone numbers required for responding to an emergency shall be posted in all owned and leased buildings. All of the building occupants shall know where the numbers are posted and which number to call for each type of emergency.

Other telephone numbers you may need depending on the type of work you do for MoDOT may include:

- Dig Rite call 800-DIG-RITE or 800-344-7483
- Your local electric power company to report power outages or for assistance with overhead power lines in work areas

7. **Emergency Evacuation Plan Posted** - Emergency evacuation plans should be either posted on the bulleting board or the door.

Building evacuation plans should be posted where they can be easily reviewed by all occupants. Both primary and secondary emergency fire exits shall be clearly marked. For further information on this subject you may refer to National Fire Prevention Association (NFPA) Document 101, *Code For Safety To Life From Fire In Buildings and Structures* or Occupational Safety and Health

Administration Regulation 29 CFR Part 1910, Subpart E, *Means of Egress*
(1910.35 to 1910.38)

B. Occupational Safety & Health (Sanitation)

8. **Restrooms Cleaned** - Restrooms floors, sinks and toilets are to be cleaned to maintain sanitary conditions for all employees. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart J, General Environmental Controls, 1910.141 *Sanitation*
9. **Paper Products, i.e., Towels, Tissues and Cups Available** - Buildings should maintain an adequate stock of the necessary paper products for their employees, such as paper towels, cups, toilet tissue, etc. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart J, General Environmental Controls, 1910.141 *Sanitation*.
10. **Lunchroom Counter and Table Tops Clean and Well Maintained** - All food preparation and eating surfaces should be clean and sanitary. Areas where employees congregate on breaks and for lunch should be free of litter and cleaned after each use. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart J, General Environmental Controls, 1910.141 *Sanitation*.
11. **Drinking Water Available** - Drinking water must be available from a local Health Department approved water source. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart J, General Environmental Controls, 1910.141 *Sanitation*.
12. **Safety Bulleting Board Current & Complete** - A separate bulleting board for safety items is maintained with current information, which includes, but is not limited to the Monthly Safety Emphasis, Workers' Compensation information, etc.
13. **Personal Protective Equipment (PPE)** - Personal protective equipment, i.e., safety glasses, safety vests, hearing protection, etc., is readily available with an ample supply for replacement. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart I, Personal Protective Equipment, 1910.132 *General*.

C. Maintenance Shops and Yards

14. **Building Housekeeping Is Good (Isles and Work Areas Clear)** - All building aisles and floors are kept free of spilled liquids and debris. Floor surfaces shall be free of any tools and equipment not immediately necessary for the job at hand. For additional information please refer to Occupational Safety and Health

Administration Regulation 29 CFR Part 1910, Subpart D, *Walking-Working Surfaces*.

15. **Work Areas and Walking Surfaces Are Well Lighted** - Sufficient lighting shall be provided in all building work areas to permit employees to clearly see the work they are performing and to be able to see trip hazards when walking. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart D, *Walking-Working Surface*.
16. **Storage of Tools, Materials and Equipment Is Neat and Orderly** - Shelves, bins, cabinets and or tool benches must be provided for the orderly storage of tools, materials and equipment. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart D, *Walking-Working Surfaces*.
17. **All Working Surfaces Provide Good Traction** - Building floors must not be sealed with any substance, which facilitates a slippery surface when wet. Floor mats may be required to provide traction in areas where traction is inadequate. For additional information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910, Subpart D, *Walking-Working Surfaces*.
18. **"No Smoking/Shut Off Engine" Signs Posted At Fuel Pumps** - No Smoking and Shut Off Engine Signs must be posted on all fuel pumps where they are clearly visible to employees pulling in their vehicle to fuel up. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.106 *Flammable and Combustible Liquids*.
19. **Emergency Power Cut Off Switch For Gasoline Pumps Clearly Identified** - This switch must be clearly identified and the location known by all employees so that all gasoline pumps may be shut off in the presence of a fire emergency. The pumps should also be shut off whenever all crew's members are in the field and the building is unoccupied. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.106 *Flammable and Combustible Liquids*.
20. **Vegetation Controlled** - Vegetation around all buildings and throughout the building grounds has been either trimmed or sprayed.

D. HAZMAT

21. **NFPA 704 Sign Posted On Building Exterior** - NFPA 704 signs must be posted, if required, on the exterior of buildings to warn of potentially dangerous, such as gas, diesel, asphalt, oil and chemical buildings which are present in or near the

building which pose a threat to firefighters responding to a fire emergency. The diamond-shaped sign is divided into four segments. The color of each segment and its location represents a different danger category. They are as follows:

Top/Red - For flammability hazards

Left/Blue - For health hazards

Bottom/White - For special instructions

Right/Yellow - For reactivity (stability) hazards

For further information on this subject you may refer to National Fire Prevention Association (NFPA) Document 704, *Standard System For Identification of the Fire Hazards of Materials*.

22. **Stored Materials Safely Piled or Stacked and Properly Blocked** - Stored materials must be stacked and blocked in such a manner as to prevent their unexpected release either falling or rolling which could injure employees working in the area. For specific information please refer to Occupational Safety and Health Administration Regulation 29 CFR Part 1910.176, *Handling Materials-General*.
23. **Materials Contained** - Materials are stored in such a manner the they can be contained on the lot to prevent hazardous spills from occurring on the lot and flowing over to private property.
24. **Material Safety Data Sheets (MSDSs) and Chemical Inventory Lists** - Each building shall maintain a chemical inventory of all chemicals used and stored within the facility. Material Safety Data Sheets (MSDSs) shall be obtained for each of those chemicals, placed in three-ringed binders and made available to all employees working in the building. For further information on this subject please refer to the Occupational Safety and Health Administration's Regulation 29 CFR 1910.1200, *Hazard Communications*.
25. **Tier II Reports Posted On Bulletin Board** - Tier II reports are posted on the building bulletin board as required.
26. **Hazardous Materials Stored In Outbuilding** - All hazardous materials shall be stored in designated hazardous materials storage buildings located away from other facilities. For further information please refer to the Safety Policies, Rules and Regulations, Employee Handbook, Part VIII. Facilities, Section C., Garages and Maintenance Buildings, Paragraph 8. Storage of Hazardous Materials.

E. **Flammable Gases and Liquids**

27. **U.L.-Approved Safety Containers In Use For Gasoline** - To reduce the possibility of fire and explosion hazards all containers used to transport gasoline shall be of a construction approved by Underwriters Laboratory with the original factory cap and flame arrestor installed. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.106 *Flammable and Combustible Liquids*.
28. **Flammable Materials Stored In Outbuilding** - Flammable materials/containers shall be labeled and stored in outbuildings to reduce the severity of any fire, which might occur in a MoDOT building. All gasoline cans shall be stored in outbuildings regardless of the quantity of liquid they contain or the effectiveness of the container construction. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.106 *Flammable and Combustible Liquids*.
29. **Flammable Liquids Kept In Closed Containers When Not in Use** - Flammable material, such as solvents, degreasers, paints, etc., shall be transferred to closed containers when not in use. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.106 *Flammable and Combustible Liquids*.

F. Machine Guarding

30. **Belts, Pulleys, Shafts, Saw Blades and Other Moving Parts Guarded** - Tool and machine moving parts which produce shear, pinch or ongoing nip point exposure to employees shall be guarded. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.212 *General Requirements For All Machines*.
31. **Work Rest** - Work rest on all abrasive wheel grinders shall be kept adjusted closely to the wheel with a maximum opening of one-eighth inch to prevent the work from being jammed between the wheel and the rest. For protection against deadly debris arising from the disintegration of the abrasive wheel the adjustable shall be set with a maximum opening of one-fourth inch. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulation, 29 CFR 1910.215, Subpart O, *Abrasive Wheel Machinery*.
32. **Proper Personal Protective Equipment** - Proper personal protective equipment (PPE) located near equipment with an appropriate sign stating its use.

G. Hand and Portable Powered Tools

33. **Electrical Tools Double Insulated or Grounded** - All electric hand and portable tools shall either be double insulated or be grounded to prevent employees from being shocked by electrical current. For specific information on this subject

please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart P, *Hand and Portable Tools and Other Hand-Held Equipment*.

34. **Hand Tools Maintained And In Good Condition** - No electrical hand or portable powered tool with a defective electrical cord should be used until that cord is replaced. Such defects would include frayed cords, broken insulation and ground post being broken off. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart P, *Hand and Portable Tools and Other Hand-Held Equipment* and/or Safety Policies, Rules and Regulations, Employee Handbook, Section H, page 35.
35. **Extension Cords In Good Condition** - Extension cords, shall be visibly inspected before each use for external defects such as loose parts, deformed or missing plug prongs or damage to the insulation. Extension cords, which remain plugged in, do not have to be inspected before each use. If damage or a defect is found the cord is to be removed from service.
36. **Grinder Securely Mounted** - Abrasive wheel grinder is securely mounted to the floor or workbench.

H. Welding, Cutting and Brazing

37. **Welding Operations Shielded From Other Employees** - Employees not engaged in welding operations must be shielded from the harmful light rays created from such activities. Welding spaces must be screened on all sides and arranged so that no serious restriction of ventilation exists. Try to leave a space about 2 feet above the ground for ventilation. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.
38. **Fire Extinguisher Immediately Available** - A fully charged suitable fire extinguisher shall be maintained in a state of readiness for instant use in the event of an uncontrolled fire caused by the welding activities. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing* and 29 CFR, Part 1910.157 *Portable Fire Extinguishers*.
39. **Fire Prevention Precautions** - When work cannot be moved practically, as in most combustible work, the area should be made safe by removing combustibles or protecting combustibles from ignition sources. For specific information on this subject please refer to the Occupational Safety and Health Administration's

(OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.

40. **Local Exhaust or Other Ventilation Available** - Local exhaust or general ventilating systems should be provided and arranged to keep the amount of toxic fumes, gases or dusts below the maximum allowable concentration. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.
41. **Oxygen and Acetylene Cylinders Properly Stored and Secured 20 Ft. From Sources of Ignition** - All oxygen and acetylene cylinders stored in buildings shall be secured upright to the walls and stored a minimum of 20 ft. from each other and from sources of ignition, such as oil and grease; or near reserve stocks of carbide or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. Valve protection caps shall always be in place and hand-tight, when cylinders are not in use. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.
42. **Pressure Regulators In Good Working Order** - Pressure regulators are function properly indicating the correct air pressure when in use and fully cutting off both oxygen and acetylene pressure when not in use. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.
43. **Flashback and Backflow Protection Installed** - Flashback protection shall be provided by an approved device that will prevent the flame from passing into the fuel-gas system. Backflow protection shall be provided by an approved device that will prevent oxygen from flowing into the fuel-gas system or fuel from flowing into the oxygen system. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.
44. **Required Personal Protective Equipment For Welding** - Properly tinted welding helmets/goggles in good condition specifically designed for welding activities shall be available for welders and welder's helpers. The glass must be of a sufficient tint to protect the welders and welder's helper from dangerous light rays. A welding jacket or apron shall also be made available. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.

I. Electrical

45. **Ground Fault Circuit Interrupters (GFCIs) In Use** - To prevent serious electrical shocks to employees ground fault circuit interrupters should be used in areas around water or connections to outdoor equipment from building electrical outlets whenever possible.
46. **Clear Path Maintained To Electrical Panels** - Sufficient access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of the electrical equipment. All materials shall be kept at a minimum of three feet from the breaker box. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart S, *Electrical*.
47. **Breaker Box Condition** - Breaker box cover is closed and all main breakers are clearly labeled. Any open areas in the breaker box exposing wire shall be covered. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart S, *Electrical*.

J. Walking and Working Surfaces

48. **Fixed Stairs Properly Constructed** - Fixed stairways should be designed and constructed to carry a load of five times the normal live load anticipated but never of less strength than needed to carry safely a moving concentrated load of 1,000 pounds. Stair width should have a minimum width of 22 inches. All stair treads shall be reasonably slip-resistant and the nosings shall be of nonslip finish.

Fixed stairs should be installed at angles to the horizontal of between 30 and 50 degrees. Any uniform combination of rise/tread dimensions may be used that will result in a stairway at an angle to the horizontal within the permissible range.

Stairway platforms should be no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.

Vertical clearance above any stair tread to an overhead obstruction should be at least 7 feet measured from the leading edge of the tread.

For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart D, *Walking-Working Surfaces*.

49. **Handrails Installed On All Stairways At Proper Height** - Standard railings shall be provided on the open sides of all exposed stairways and stair platforms. Handrails shall be provided on at least one side of closed stairways preferably on the right side descending for every flight of stairs having four or more risers.

Stairways less than 44 inches wide having both sides enclosed shall have at least one handrail, preferably on the right side descending. Stairways less than 44 inches wide having one side open shall have at least one stair railing on the open side. Stairways less than 44 inches wide having both sides open shall have a railing on each side.

Stairways more than 44 inches wide but less than 88 inches wide shall have one handrail on each enclosed side and one stair railing on each open side. Stairways 88 or more inches wide shall have one handrail on each enclosed side, one railing on each open side, and one intermediate stair railing located approximately midway of the width.

A standard railing (like those constructed on balconies) shall consist of the top rail, intermediate rail, and posts and shall have a vertical height of 42 inches from the upper surface of the top rail to the floor. The top rail shall be smooth-surfaced throughout the length of the railing. The intermediate rail shall be approximately halfway between the top rail and the floor. The ends of the rail should not stick out if that causes a hazard.

A stair hand rail shall be of construction similar to a standard railing but the vertical height shall be not more than 34 inches nor less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.

The mounting of handrails shall be such that the completed structure is capable of withstanding a load of at least 200 pounds applied in any direction at any point on the rail.

All handrails and railings shall be provided with a clearance of not less than 3 inches between the handrail or railing and any other object.

For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart D, *Walking-Working Surfaces*.

50. **Handrails and Toeboards Installed On Balcony** - For railings, the posts shall be of at least 2-inch by 4-inch stock spaced not to exceed 6 feet. The top and intermediate rails shall be of at least 2-inch by 4-inch stock. If the top rail is made of two right-angle pieces of 1-inch stock the posts may be spaced on 8-foot centers, with a 2-inch by 4-inch intermediate rail.

A standard toeboard shall be 4 inches in vertical height from its top edge to the level of the floor. It shall be securely fastened in place with not more than 1/4 inch of clearance above floor level. It may be made of any substantial material

either solid or with openings not over 1 inch in the greatest dimension. For specific information on this subject please refer to the Occupational Safety and Health Administration's (OSHA) Regulations, 29 CFR, Part 1910, Subpart D, *Walking-Working Surfaces*.

- 51. **Ladders of Type II Construction** - All ladders shall be a minimum of Type II construction, which will support weights of 250 lbs. All replacement ladders or newly purchased ladders should be of fiberglass construction.
- 52. **Ladders In Good Condition** - All ladders should have no loose or rungs, loose nails, screws, bolts, or other metal parts, cracked, split or broken uprights, braces or rungs, slivers on uprights, rungs or steps or damaged or worn non-slip bases. All extension ladders should have no loose, broken or missing extension locks, defective locks that do not seat properly while extended or worn or rotted rope.
- 53. **Spreader Racks** - Spreader racks are so constructed that the spreaders can be installed from the ground.
- 54. **Catwalks** - Catwalks on asphalt and salt storage tanks provide a safe walking surface and reliable railing system.

M. Fire Protection and Prevention

- 55. **Fire Extinguishers Sufficient Size, Class and Number** - It is recommended that for normal fire exposures a 10-B Rated Class A,B,C fire extinguisher be selected. Maximum travel distance to a fire extinguisher within any MoDOT building is not to exceed 50 ft. For further information on this subject please refer to The National Fire Code NFPA 10, *Standard For Portable Fire Extinguishers* and 29 CFR, Part 1910.157 *Portable Fire Extinguishers*.
- 56. **Fire Extinguishers Installed** - Fire extinguisher installed on all MoDOT equipment as required.
- 57. **Fire Extinguishers Inspected On A Monthly "Quick Check"** - A "Quick Check" Inspection of fire extinguishers shall include a check of at least the following items:
 - (a) Located in designated space.
 - (b) No obstruction to access or visibility.
 - (c) Operating instructions or nameplate legible and facing outward
 - (d) Safety seals and tamper indicators not broken or missing.

- (e) Fullness determined by weighing or "hefting".
- (f) Examined for obvious physical damage, corrosion, leakage, or clogged nozzle
- (g) Pressure gauge reading or indicator in the operable range or position.

When an inspection of any fire extinguisher reveals a deficiency in any of the conditions listed above immediate corrective action must be taken.

For further information on this subject please refer to The National Fire Code NFPA 10, *Standard For Portable Fire Extinguishers* and 29 CFR, Part 1910.157 *Portable Fire Extinguishers*.

- 58. **Extinguishers Inspected Annually By Licensed Service Provider** - All fire extinguishers are to be inspected annually and any required maintenance performed by a licensed service provider as outlined in The National Fire Code NFPA 10, *Standard For Portable Fire Extinguishers* and 29 CFR, Part 1910.157 *Portable Fire Extinguishers*.
- 59. **Building Fire Exits Clearly Marked** - All building fire exits should be marked with a "Fire Exit" sign. For further information on this subject please refer to National Fire Protections Association's (NFPA) Code 101, Life Safety Code and 29 CFR, Part 1910.37 *Means of Egress*.
- 60. **"No Smoking Signs"** No smoking signs posted where needed.
- 61. **Other Safety Hazards Identified** - Any safety hazard(s) identified during the course of the building inspection, but not listed on the Inspection Checklist should be described in this section.
- 62. **Action Plan: Who, What, When?** - For each building inspection a contact person shall be identified who will be responsible for seeing that all deficiencies are corrected.
- 63. **Facilities Management Deficiencies To Be Added To The CI Budget** - Those deficiencies, which will require budgeting for Capital Improvement funds by Facilities Management, shall be noted in this section based upon the findings and given a priority rating using the following formula:

$$\text{Capital Improvement Priority Rating} = \text{Condition Rating No.} \times \text{Importance Level No. (Refer to Exhibit B for Rating No.'s)}$$
- 64. **Inspected By:** - The signature of all person who participated in the

initial building inspection.

65. **Reinspected By:** - The signature of all person who participated in the follow-up building inspection.

EXHIBIT A: Building Safety Inspection Checklist



Bldg Inspections Check List 2010.docx

EXHIBIT B: Facility Audit Inspection Form - Rating Numbers



FACILITY AUDIT INSPECTION FORM.doc

Securing Cargo

A brief summary of the manual is as follows:

All employees that haul cargo will be trained in the proper methods of securing cargo for transportation. It is the driver's responsibility to ensure his/her vehicle will:

- Comply with all state laws regarding weights, lengths and widths while hauling materials or equipment
- Meet or exceed USDOT Federal Motor Carriers Regulations with regard to securing cargo.

It is the responsibility of the driver or operator to ensure their cargo is loaded and secured to prevent the cargo from leaking, spilling, blowing or falling from a vehicle, even if the cargo was loaded by someone other than the driver.

Loss of even small cargo from your vehicle can have serious consequences. Tailgates should be installed upright and tight. Cargo in the bed of a dump truck shall be secured and tailgates should be in the upright position. Items of cargo such as shovels, rakes, signs and signposts carried on the outside of the vehicle must be secured to prevent them from falling off your vehicle.

A tiedown consists of any combination of D-rings, chains, straps, binders and hooks. **Only DOT Grade 7/70, 3/8" or better tie downs shall be used to secure heavy equipment.** Check your tiedowns for tightness after the first 50 miles and every 150 miles or 3 hours of your trip.

Remember, when using chains, your chain is only as strong as its weakest link so inspection of chain prior to tiedown is essential.

An anchor point is that part of the structure, fitting or attachment on a vehicle or article of cargo to which a tie down is attached. Securement of heavy equipment requires a minimum of 4 points of securement.

- Only Direct Securement shall be used to secure heavy equipment.
- Anchor close to front and rear of equipment at 45 degree angle (if possible).
- Cross chain if possible.
- Secure articulating equipment.
- Secure accessories against movement.

All MoDOT motorized vehicles and trailered vehicles carrying material that may reasonably be expected to become dislodged and fall from the vehicle during transport shall have a protective cover over the load [RSMO 319.075].

■ Refer to MoDOT's Cargo Securement Training Manual for additional information on this section.

General Policy

Using a personal or department cell phone while driving is not prohibited. This activity should be limited to conducting necessary department business only. You are encouraged to safely park off the roadway before having a phone or radio conversation. Employees conducting necessary business on phones or department radios while driving should keep these conversations short as possible to limit distractions while driving.

Equipment Operations and Spotters

Neither the vehicle or equipment driver/operator nor the spotter, shall be speaking on, texting with or otherwise operating or viewing a cell phone or other personal data device.

Flagging Operations

Employees shall not use cell phones, headsets, etc., while engaged in flagging operations.

Refueling Operations

The two-way radio and cell phones should be turned off while the vehicle is being refueled.

Chapter : 2 Safety Procedures

Section: 202 Chainsaw, Weedeater and Chippper

Sub- Section:

Policy/Procedure #:

Effective Date:07/01/2012

Supersedes:

Dated:

Chainsaw, Weedeater and Chippper Safety Procedures

1. Weedeaters and Chippers

It is extremely important that anyone working around this equipment be completely familiar with the operator's manual to ensure their safety in working with this machinery.

The following precautions shall be observed when operating weedeaters and chippers:

- a) Wear personal protective equipment such as hard hat, protective eye wear, , hearing protection, safety vest, and anti-vibration gloves.
- b) Shut off motor and let it cool before refueling. Wipe gasoline spills from motor.
- c) Check manuals of other specialized cutting equipment and follow the manufacturer's safety instructions. Specialized equipment includes: power pruners, gas powered pruning saws, pole saws, limb cutters, etc
- d) Never reach inside the safety shroud of the chipper while the engine is running. Never lubricate or service the machine while it is running. Keep hands, feet and clothing away from the power-driven parts. Always utilize lockout/tagout procedures.

2. Chainsaws

The following precautions shall be observed when operating a chainsaw:

- a) Employees shall not fell or trim trees within 10 feet of any power lines or take down trees that have the potential to fall into power lines.
- b) Do not assume that a utility line is a phone line. Call the utility company to identify the line before cutting down a tree.
- c) If a felled tree makes contact with any power line, the employee shall notify the power company immediately. Each employee shall remain clear of the area until the power company advises there are no electrical hazards.
- d) Prior to clearing roads with downed trees and power lines, contact the utility company and stay clear of downed power lines until the utility company indicates that the lines are 'dead' and safe to work around.
- e) Before operating the chainsaw one shall read the manufacturers' operation manual and comply with all of the manufacturer's directives.

- f) Operator's shall receive training in operating a chainsaw. The type and scope of training shall be approved by the Safety & Health Manager.
- g) The chain brake shall be engaged and functioning correctly anytime the chainsaw is being started, or when carrying a running chainsaw and not actively cutting or trimming limbs.
- h) Chainsaws should be started on the ground unless starting the saw on the ground is not a feasible option.
- i) If starting the chainsaw between the legs: stand clear of any brush, tall weeds or other tall growth. Both feet shall be firmly planted, the chainsaw handle shall be held firmly between the legs and ensure the chain brake is engaged before the pull start. Pull the cord a few inches until it 'catches' then give a quick, even pull. Do not let go of the cord during starting. You should feed the cord back into the chainsaw in a controlled manner.
- j) Refueling the chainsaw should be done on the ground. Refueling shall not be done inside the bucket of a boom/bucket truck or bed of a pickup truck.
- k) Do not raise the chainsaw to a vertical position above the head. The chainsaw should not be held above the shoulder at greater than a 45 degree angle from the horizontal position.
- l) Do not cut a limb if the positioning would allow the limb and branches to fall on top of you.
- m) When a standard chainsaw leaves you stretching or standing off balance, use the pole saw rather than a chainsaw.
- n) When operating a chainsaw, utilize a hard hat with screen, safety glasses, hearing protection, chain saw chaps, work gloves (recommend anti-vibration gloves if the chainsaw does not have an anti-vibration handle) and Class II or III Safety Apparel in accordance with Safety Policy 1.6.
- o) Chainsaws should be transported in a case, but if one is not available then keep the bar in a chain guard.
- p) When purchasing a replacement chain for an existing saw, ensure the chain complies with ANSI B 175.1 –low kickback standard.

Chainsaw Chaps shall be worn by employees when operating a chain saw/pole saw.

Cleaning Agents

Only employees thoroughly instructed in the use of steam cleaning equipment and the dangers of hot chemical solutions shall be permitted to use the cleaning equipment.

Employee shall never point a gun or hose used in the cleaning process at another person.

Operators of steam cleaning equipment shall wear the PPE required by the labels on the chemicals used for cleaning and the operator's manual of the equipment being used.

Chemical compounds used as cleaning agents on trucks or equipment shall be immediately flushed off to eliminate personal contamination and damage to equipment paint.

MoDOT approved commercial liquids that are not injurious or flammable should be used for cleaning purposes. The use of gasoline or diesel for cleaning, degreasing and/or as a solvent is prohibited. Follow manufacturer's recommendations for proper ventilation.

Use of compressed air for cleaning work surfaces shall be limited to a pressure of 30 psi or less.

Use of compressed air to clean employee's clothes or their person is prohibited.

Appropriate PPE shall be used when cleaning equipment.

Chapter : 3 Safety Training

Section: 300 Computer Workstation Ergonomics
Training

Sub- Section:

Policy/Procedure #:

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Supersedes: 06/01/94

Dated:

INTRODUCTION

This three-part training course teaches employees how the computer age has brought about new stresses on the human body. It illustrates how these stresses can, over a period of time, produce disabling injuries, such as carpal tunnel syndrome. Most importantly, it explains how the majority of these stress factors and subsequent injuries can be prevented.

This class is recommended for all employees who perform repetitive tasks at a computer workstation for a period of two or more hours a day. It is not designed for the occasional computer user. This class is strongly recommended for clerical and secretarial staff and those who perform extensive data entry.

COURSE BENEFITS

This course is designed to:

- *Increase productivity by decreasing error rates
- *Decrease absenteeism
- *Decrease injury/illness claims
- *Increase morale

COURSE CONTENT - WORK STATION ADJUSTMENT AND STRETCHING

This course covers three issues, ergonomic work station adjustments, proper posture usage and stretching and strengthening activities. While separate in their presentation, they are interrelated in effective prevention of repetitive strain injuries.

There are several general causes of pain:

- ***Poor body postures** - These are usually the result of a work station which requires the user to assume certain "unnatural" postures.

***Repetitive use of the same muscles** - all muscles fatigue over time.

***Forceful use of muscles**

***Static, unmoving postures** - movement of muscles stimulates blood flow. If the muscles must stabilize the body in one, unmoving position, fatigues more rapidly.

Proper work station adjustments can help eliminate the "unnatural" postures. Periodic stretching activities can give the over-used muscles a chance to rest and stimulate blood flow in the unused muscles.

COURSE GOALS

"Nothing improves without change". The goal of this course is to create *positive* change, not simply pass on information which *might* or might *not* be used by the participant.

Humans learn by **doing**. The information in the video and written materials will produce minimal results *unless it is used*. For this reason the course is action-oriented. The goal is to *build skills*, not just convey information.

COURSE OUTLINE

The training is presented in six modules:

***The Torso** - Ergonomics and Work Station Adjustments

***The Torso** - Stretching and Strengthening Activities

***The Hands** - Ergonomics and Work Station Adjustments

***The Hands** - Stretching and Strengthening Activities

***The Eyes** - Ergonomics and Work Station Adjustments

***The Eyes** - Stretching and Strengthening Activities

Risk and Benefits Management On-line Manual



Type: Safety/Health

Chapter : 2 Safety Procedures

Section: 203 Confined Space Entry Procedure

Sub- Section:

Policy/Procedure #:

Effective Date: **06/23/2008**

Supersedes: 11/01/2006

Dated:

GENERAL

The Missouri Department of Transportation Confined Space Entry Program is based upon 29 CFR 1910.146 Permit-required Confined Spaces. The program will enable employees to recognize confined spaces and to take precautions to protect persons working in and around confined spaces.

No employee shall be permitted to enter a confined space unless the employee has satisfactorily completed MoDOT's Confined Space Training Program.

TRAINING

MoDOT will provide and document training for employees whose work is required by this policy. The District or Division will retain the original forms and training rosters for their records and input their names into LMS. Updated training will be provided as needed.

PURPOSE

The purpose of the Confined Space Entry Program is to prevent

incidents by training and equipping employees who can reasonably be expected to enter confined spaces. By understanding the hazards, efforts can be targeted towards eliminating or controlling them thus preventing employee injuries. Confined spaces are classified as follows:

*** CONFINED SPACE**

For the purpose of Department safety policies and procedures a confined space is defined as any space that meets all of the following criteria:

1. Has adequate size and configuration for employee entry;
2. Has limited means of entering and exiting, and,
3. Is not designed for continuous employee occupancy.

PERMIT-REQUIRED CONFINED SPACE

A permit-required confined space has one or more of the following characteristics:

1. Contains, or has the potential to contain, a hazardous atmosphere.
2. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section
3. Contains a material that has the potential for engulfing an entrant, i.e., grain, mud, salt, rock, sand, etc.
4. Contains any other recognized serious safety or health hazard.

These confined spaces pose the greatest danger to entrants and require the most extensive safety precautions to be taken.

If the workplace contains permit-required confined spaces all affected employees shall be informed (when feasible) by the posting of danger signs or by any other equally effective means. The warning shall include the existence and location of

and the danger posed by the permit-required confined space, i.e., **DANGER—PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER.**

HAZARD ASSESSMENT

Prior to entering any confined space, a properly trained person shall perform a hazard assessment to determine if an entry permit is required. If there is any uncertainty when making a determination of whether a space is permit required or not, the space shall be classified permit required.

Hazards in a confined space can change at anytime. The Entry Supervisor must be prepared to re-evaluate the confined space should the conditions change.

Pre-Entry Preparation

Before entering any *permit-required confined space*, the following equipment should be assembled as needed, and ready for use at the work site:

- a. Entry Permit (See Exhibit 1.)
- b. Air Monitoring Equipment (Oxygen, Carbon Monoxide, Combustibles & Hydrogen Sulfide)
- c. Two-way Radio (intrinsically safe)
- d. Full Body Harness
- e. Lifeline with proper attachments
- f. A means of providing continuous forced-air ventilation
- g. Required Personal Protective Equipment (PPE)
- h. MSDS available if a known contaminant is present
- i. Cell phone or means to communicate with Emergency Personnel
- j. At least one member of the crew, other than the authorized entrant shall be trained and certified in First Aid and CPR.

Pre-Entry Procedures: Prior to the entry by employee(s) into any permit required confined space the following procedures shall be carried out to eliminate or minimize

known hazards.

- a. Remove all sources of ignition
- b. De-energize all sources of energy, i.e., electrical, mechanical, heat, etc., and perform Lockout/tagout of the energy sources.
- c. If the tank or vessel can be substantially disassembled, such as disassembling if possible.
- d. Remove as much product as possible from the tank or vessel
- e. Continue by pumping, draining and flushing the contents with water or with a compatible solvent. Repeat the processes if necessary.
- f. Flush as much sludge sediment and scale from the tank or vessel as possible.
- g. Purge the atmosphere using forced-air ventilation.
- h. Proceed with atmospheric testing.

Evaluate Permit-Required Space Conditions

Test conditions in the permit-required confined space to determine if acceptable entry conditions exist before entry is authorized to begin. If isolation of the space is not possible because the space is large or is a part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent practical before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in the area where authorized entrants are working.

Where the hazard assessment so indicates atmospheric testing of all permit-required confined spaces and all regular confined spaces, will be conducted only by the Entry Supervisor. Testing with intrinsically safe gas detector will be conducted for oxygen deficient/rich atmospheres, combustible gases and vapors and toxic gases using the following steps:

Order of testing. A test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. Combustible gases are tested for next because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than

exposure to toxic gases and vapors. If tests for toxic gases and vapors are necessary, they are performed last.

Entry Procedures

- a. Station an attendant outside the confined space to operate the lifeline and/or assist the person who will enter the confined space. The attendant will remain in constant communication with the person(s) in the confined space.
- b. The person(s) entering a *permit-required confined space* shall wear a harness with a life line attached. Such equipment shall be used in *regular confined space entries* where it is deemed necessary for the safety of the entrant. Some extraordinary entries may not require the use of a harness and lifeline, where it may create additional hazards such as tangling or if usage may limit effectiveness.
- c. If the internal environment of the confined space could cause possible harm or a malfunction of the gas detector the Entry Supervisor or other trained person shall continue to monitor the internal atmosphere from the outside until the entrant(s) have exited the space. However, if the gas detector will not be subject to damage, the best practice is to have the entrant use it as a personal monitor. For most models of gas detectors the entrant can place the instrument into a belt holster supplied by the manufacturer and then safely enter the confined space.
- d. If at any time during the entry the gas monitor alarm sounds, employees shall exit the confined space immediately.
- e. Employees will exit ***any confined space*** if they start to feel dizzy, light-headed or nauseated. (Consult MSDSs when available for other symptoms associated with the specific hazard)
- f. No employee shall be permitted to smoke in or within twenty (20) feet of the confined space.
- g. Employees shall exit the confined space as soon as the task has been completed. If it is a ***permit-required confined space*** this closes out the current permit and future re-entry will require the issuance of a new permit.

Hot Work Or The Use Of Chemicals In A Confined Space

Hot work, such as heating, cutting, welding or soldering, or the use of chemicals in a confined space, present special hazards by the very nature of the work, the hazardous environment it can create, and the fact that hot work presents an ignition source to the environment.

Before any entry involving the use of hot work or chemicals can begin, a review of the confined space characteristics should first be carried out. All procedures and safety equipment shall be available as in a normal confined space entry. In addition the hazards that may arise from hot work or chemicals should be evaluated using a material safety data sheet. This may create a permit-required space by introduction of the hot work or use of chemicals. In addition, all hot work in a confined space requires a hot work permit, in addition to other permits. The competent person will issue applicable permits.

Employees should exercise extreme caution whenever introducing hot work or chemicals into a confined space. If there are any questions during an entry, contact your District Safety Manager or Entry Supervisor.

ASSIGNED DUTIES OF CONFINED SPACE TEAM

Entry Supervisor

The “**Entry Supervisor**” prior to initiating a permit-required confined space entry must complete a Confined Space Entry Permit. (see exhibit 1)

The Entry Supervisor’s duties and responsibilities include:

1. Knowing the hazards that may be faced during entry, including information on the means of entry, signs or symptoms, and consequences of the exposure.
2. Verifying, by checking the appropriate entries have been made on the permit, all tests specified by the permit have been conducted and all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
3. Terminating the entry and canceling the permit as required.

4. Restricting access to only those authorized.
5. Ensuring that all operations remain consistent within the terms of the entry permit and that entry conditions remain acceptable.

Attendants

Attendants must:

1. Know the hazards that may be faced during entry, including information on the means of entry, signs or symptoms, and consequences of the exposure.
2. Be aware of possible behavioral effects of hazard exposure in authorized entrants.

Authorized entrants must:

1. Know the hazards that may be faced during entry, including information on the means of entry, signs or symptoms, and consequences of the exposure.
2. Properly use safety equipment
3. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.
4. Alert the attendant whenever:
 - a. The entrant recognizes any warning signs or symptom of exposure to a dangerous situation, or
 - b. The entrant detects a prohibited condition.
- c. Exit from the permit space as quickly as possible whenever:
 - i. An order to evacuate is given by the attendant or the Entry Supervisor;
 - ii. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
 - iii. The entrant detects a prohibited condition,
 - iv. An evacuation alarm is activated.

Emergency Rescue

At least one individual on the crew, beside the authorized entrant(s), must be trained in CPR / First Aid.

Emergency Rescue Procedures

In the event a worker is injured, disabled or needs help within the confined space, the following emergency rescue procedures shall be followed:

- a.** No MoDOT employee shall enter the confined space to perform a rescue.
- b.** Immediately notify the nearest local EMS, either by use a cell phone with the emergency number entered in advance. Then notify the District Office of the incident..
- c.** Notify EMS personnel that the victim is located within a confined space.

Permit System

Before entry is authorized, the Entry Supervisor shall document the completion of measures required by preparing an entry permit.

Before entry begins, the Entry Supervisor identified on the permit shall sign the entry permit to authorize entry.

The completed permit shall be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

The Entry Supervisor shall terminate entry and cancel the entry permit when:

- 1.** The entry operations covered by the entry permit have been completed; or
- 2.** A condition not allowed under the entry permit arises in or near the permit space.

Operations shall retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation shall be noted

on the permit so that appropriate revisions to the permit required space program can be made.

Entry Permit

The entry permit that documents compliance with this section and authorizes entry into permit required space shall be filled out completely.

Use of Contractors: It is the responsibility of all MoDOT contractors or consultants to comply with 29 CFR 1910.146 and all Department Safety Policies, Rules and Regulations. When a

District or a Division arranges to have another employer (contractor) perform work that involves permit space entry, the host District or Division shall:

Concluding the Entry

Upon completion of their tasks the entrants shall exit the permit-required confined space removing all of the tools and equipment that were required for the job. The **Entry Supervisor** shall cancel the confined space entry permit. Should reentry be required a new permit shall be required prior to entry.

Program Review

A review of the Department's Confined Space Entry Program will be conducted when there is reason to believe that the measures taken under the confined space program may not protect employees. This will require revisions in the program which will correct deficiencies found to exist; and

Review the permit required space program, using the canceled permits retained within one year after each entry and revise the program as necessary, to ensure that MoDOT employees participating in entry operations are protected from permit space hazards. Designated Operations, Risk and Benefits Management and District Safety personnel will conduct such reviews.

Definitions Based Upon OSHA

Standard 29 CFR 1910.146

"Acceptable entry conditions" means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

"**Attendant**" means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

"**Authorized entrant**" means an employee who is authorized by the employer to enter a permit space.

"**Blanking or blinding**" means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

"**Confined space**" means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work;
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.), and,
- (3) Is not designed for continuous employee occupancy.

"**Double block and bleed**" means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

"Emergency" means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

"Engulfment" means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by suffocation, constriction, or crushing.

"Entry" means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

"Entry permit" means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (f) of this section.

"Entry Supervisor" means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit required space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

NOTE: The **Entry Supervisor** may also serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills.

"Hazardous atmosphere" means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- (2) Airborne combustible dust at a concentration that meets or exceeds its LFL; NOTE: This concentration may be approximated as a

condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure in excess of its dose or permissible exposure limit;

(5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

"Hot work permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

"Immediately dangerous to life or health (IDLH)" means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate temporary effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery of the temporary effects of the gas until

they eventually collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

"Inerting" means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: Inerting produces an IDLH oxygen-deficient atmosphere.

"Intrinsically Safe" Electrical equipment, i.e., gas detectors, portable lighting, ventilation equipment, manufactured in such a way as to eliminate sparking or excessive heat which could cause the ignition of flammable dust and vapors.

"Isolation" means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

"Line breaking" means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

"Confined space" means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

"Oxygen deficient atmosphere" means an atmosphere containing less than 19.5 percent oxygen by volume.

"Oxygen enriched atmosphere" is an atmosphere containing more than 23.5 percent oxygen by volume.

"Permit-required confined space (permit space)" means a confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant;

(3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

(4) Contains any other recognized serious safety or health hazard.

"Permit-required confined space program (permit space program)" means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

"Permit system" means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

"Prohibited condition" means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

"Rescue service" means the personnel designated to rescue employees from permit spaces.

"Retrieval system" means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

"Testing" means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

MISSOURI DEPARTMENT OF TRANSPORTATION CONFINED SPACE ENTRY PERMIT

Date: _____ Time: _____ Location: _____

Reason For Entry: _____

Entry Supervisor Taking Readings: _____ Job Title: _____

Top Middle Bottom

Oxygen

(19.5% To 23% is acceptable)

Combustible Gas

(10% or less of LFL is acceptable) _

Hydrogen Sulfide

(10 ppm or less is acceptable) _

Carbon Monoxide

(35 ppm or less is acceptable) _

Possible Work Hazards Yes No

Energy Sources (Lockout/Tagout)

Corrosive Materials

Toxic Materials

Flammable Materials

Slippery Surfaces

Welding or Torches

Other _____

Safety Equipment Yes No

Two-way Radio

Attendant Trained In First Aid/CPR

Harnesses and Lifelines

Eye Protection

Tripod & Winch (If Required)

Head Protection

Forced-air Ventilation

Barricades

MSDS

Other Protection (Explain) _____

Authorized Entrants' Signatures: _____

Entry Supervisor's Signature: _____

(Exhibit 1.)

Worksite Location: _____ Date: _____ Time: _____
Permit No. _____

Source of Ignition:

___ Acetylene ___ Electric tools ___ Soldering ___ Abrasive Saw ___ Heliarc
welding ___ Drilling

___ Electric arc ___ Propane torch ___ Other: _____

**This Hotwork Permit May Be Signed and Hotwork Authorized Only After
Satisfactory Compliance With All Items Outlined In This Permit**

___ Floors swept clean of combustibles? ___ Welding, cutting, fume ventilation of
respirator required?

___ Vessels, equipment drained, purged, ventilated, purged, ventilated, and
cleaned? ___ Oxygen-rich environment evaluated?

___ Remaining combustible or flammable materials 35 feet horizontally as well
as vertically from source of heat?

___ Non-movable combustible or flammable materials isolated, covered/shielded
with fire retardant material

___ Lockout/tagout of electrical, mechanical, chemical, blanking, cap piping
implemented?

___ Vertical and horizontal openings within 35 feet sealed or covered for
spark/vapor control?

___ Heat transmission, conduction, radiation controlled? ___ Means of egress

identified and available?

☐ Hazardous material transfers disconnected within 60 feet of hot work? ☐
Inert gas blanket required?

☐ Building/area air currents and outdoor wind direction Known? ☐
Automatic fire sprinkler system operational?

☐ Continuous monitoring of atmospheric conditions maintained? ☐ Trenches
over four feet deep shored of slopes?

☐ Work areas and adjacent areas where sparks may have spread checked out
30 minutes after work completed?

☐ Fire watch provided during work and 30 minutes after completion of work?

☐ Means of egress identified and available? ☐ Special danger, caution,
warning signs posted?

☐ Fire extinguisher present

Approvals and Authorizations

This permit is valid only so long as work conditions existing at the time of
issuance continue. It expires on any change in condition that adversely affects
safety of the work area while work is in progress.

I have personally inspected the location where the above work is to be done. I
have checked for compliance with the safety precautions listed on the permit and
authorized the work to be performed.

Title Printed Name Signature Date

Entry Supervisor _____

Welder _____

Fire watch _____

Worksite Location: _____ Date: _____ Time: _____

____ Permit No. ____

Additional Permits Required

____ Confined Space Entry Permit ____ None

____ Hotwork Permit ____ Other _____

____ Lockout/tagout

Personal Protective Equipment

____ Acid Suit ____ Rubber Gloves ____ Rubber Boots ____ Safety Signs ____
Respirator ____ Safety Rope

____ SCBA ____ Rain Suit ____ Water Hose ____ SAR ____ Fire Extinguisher ____
Flashing Lights

____ Face Shield ____ Fire Blanket ____ Road Barriers ____ Safety Goggles ____
Emergency Shower

____ Temporary Containment ____ Impervious Apron ____ Eye Wash ____ Pipe
Support

Additional Safety Precautions

____ Pumps and equipment locked out ____ Operations personnel notified

____ Lock and tag out appropriate isolation valves ____ Other

____ Drain or vent lines open

Approvals and Authorizations For Line Breaking

This permit is valid only so long as work conditions existing at the time of issuance continue. It expires on any change in condition and that adversely affects safety of the work area while work is in progress.

I have personally inspected the location where the above work is to be done. I have checked for compliance with the safety precautions listed on the permit and authorized the work to be performed.

Title Printed Name Signature Date

Originator/Approver _____

Supervisor _____

Employee _____

Chapter : 3 Safety Training

Section: 301 CPR & First Aid-Training

Sub- Section:

Policy/Procedure #:

Effective Date: **04/01/2008**

Supersedes: 04/01/2004

Dated:

INTRODUCTION

Designed to help employees feel more confident of their ability to act appropriately in the event of an emergency. It teaches the employee how to identify and eliminate potentially hazardous conditions in their environment, recognize emergencies, make appropriate decisions for first aid care by following the three emergency action steps and provide basic care for victim until more advanced medical care arrives.

DEPARTMENT GOALS

1. To have a minimum of two employees in each work unit or crew trained in Standard First Aid and CPR.
2. To train at least 50% or more of the Department's workforce.
3. To promote 100% recertification of trained employees.

TYPES OF TRAINING

Standard First Aid and Adult Cardiopulmonary Resuscitation (CPR) training is offered to employees to provide them with the skills and information in order to help people in the event of an emergency.

Standard First Aid

Standard First Aid is designed to give the employee the necessary information to recognize and care for various soft tissue injuries, musculoskeletal injuries, sudden illness, and signals of heat- and cold- related emergencies.

After completing a Standard First Aid Course and receiving your certification you should be able to:

- *Identify ways to prevent injury and/or illness.
- *Recognize when an emergency has occurred.

*Follow the three emergency action steps required in any serious incident.

*Identify the signals of heat- and cold-related emergencies

*Provide basic care for injury and/or sudden illness until the victim can receive professional medical help.

In addition, Standard First Aid Training emphasizes the value of a safe and healthy life-style. It attempts to alert participants about behaviors and situations that contribute to their risk of injury and/or illness and to motivate them to take precautions and make any necessary lifestyle changes.

Cardiopulmonary Resuscitation (CPR)

There are life-threatening emergencies, such as when a victim is not breathing or has no pulse where it may be only a matter of seconds before that person will die. CPR training teaches employees how to intercede with life-saving help during this critical period.

Welding and Cutting

Employees shall wear appropriate PPE when welding or cutting.

Indoor welding shall be well ventilated.

Only those engaged in welding should be permitted around welding equipment or be permitted to assist the welder unless equipped with appropriate PPE.

Properly adjusted shields shall be placed around welding operators to prevent other employee's exposure to glare.

The electrode holder and connecting cable on electric welders shall be completely insulated.


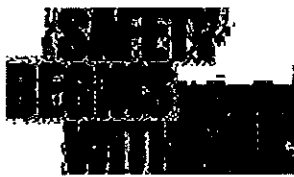
Welding activities should be screened off from other work activities with an opaque partition, such as a canvas wall.

Welding operations shall not be performed in close proximity to any explosive materials or in the presence of flammable materials, gases or vapors.

Do not weld or cut on containers that have held flammable liquids or vapor.

Containers shall be purged with water before welding operations are started.

All electrical welding machines operated from electric power circuits shall be on a grounded circuit.

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Driving Procedures	
	<u>Effective</u>	March 1, 2014	
	<u>Supersedes</u>		

POLICY STATEMENT

All MoDOT employees shall abide by Missouri Motor Vehicle and Commercial Motor Vehicle laws. Any violation of rules contained in either the Missouri Driver's guide or CDL manual is considered a safety violation.

DEFINITIONS

1. CDL – Commercial Driver's License
2. CMV –Commercial Motor Vehicle

POLICY REQUIREMENTS

All operators of department owned, leased or rented motor vehicles and equipment shall comply with the following:

1. All employees shall have a valid operator's or CDL with them while driving.
2. Use of state-owned or leased vehicles shall be authorized by the department.
3. Seat belts shall be worn by operators and passengers in department owned, rented, leased and personal equipment/vehicles (when used for MoDOT business) when the wheels are in motion.
4. All employees shall use three points of contact, facing towards the vehicle, when entering and exiting a truck, motorgrader, loader, etc.
5. Drivers shall be responsible to see that passengers are seated and no part of their body projects over the side of the vehicle. Never permit riding on bumpers, the hood, tailgates, fenders, running boards or allow passengers to jump on or off moving or stationary vehicles or equipment.
6. There shall be no more people riding in a vehicle than there are seat belts available.
7. Operators shall make a pre-trip inspection of all CMV's before use. Document and report any deficiencies to the direct supervisor who should in turn notify the equipment technician. For a complete list of components to be inspected, refer to Missouri's CDL Manual or the appropriate equipment training manual.
8. Texting, instant messaging, e-mail, etc., shall not be viewed or typed while driving or operating equipment.
9. Headlights shall be used when wipers are engaged during inclement weather: rain, snow, fog, etc.

PROCEDURES

1. Operators of department owned, leased or rented motor vehicles and equipment should comply with the following:
 - a. All operators should follow safe operating procedures as outlined in the operator's/owner's manual, the most recent Missouri Driver's Guide and the CDL Manual.
 - b. Employees should not wear headsets or earphones for the purpose of listening to the radio or music while operating a vehicle or equipment.
 - c. Operators of non-CMV's and equipment should ensure routine maintenance is conducted in accordance with General Service's maintenance schedules. Report any damage or deficiencies to their supervisor, appropriate mechanic and/or General Services Manager.
 - d. All operators should set a good example by driving safely and being courteous.
 - e. Prior to operating any heavy equipment or CMV, employees should complete the appropriate required training.
2. Safe Driving Practices:
 - a. When starting from a parked position, make a circle check first to make sure all equipment and materials, such as tools, signs, and loose aggregate, are secure and the area around the vehicle is clear.
 - b. When backing, use a spotter if one is available.
 - c. When driving at night, always drive so that you can stop within the sight distance the headlights.
 - d. Always be aware of road conditions. Moisture, ice, snow, loose gravel or hazardous conditions should dictate extra caution.
 - e. Keep far enough behind the vehicle in front of you so that there will be adequate stopping distance.
 - f. When parking, make sure that the vehicle is parked so that it will not roll. The transmission should always be placed in gear or park position and the emergency parking break applied when a vehicle is parked.
 - g. All brakes should be kept in good working order.
 - h. Use turn signals in sufficient time to warn other drivers that you are turning.
 - i. Using a personal or department cell phone or similar data device while driving is not prohibited, but should be limited to conducting necessary department business only.

TRAINING

1. CDL Training LMS # 24401
2. Gear Up - Basic Safety Training (LMS # 24492) to be completed within the first week of hire.
3. Gear Up - Dump Truck Training (LMS # 24487) to be completed within the first week of hire.

CROSS REFERENCES

1. Human Resources - Policy 2500, Standard Rules of Conduct
2. Human Resources - Policy 0504, Vehicle Usage and Liability
3. Human Resources - Policy 2508, Drug Testing Program
4. Human Resources - Policy 2509, Driving Privileges
5. Human Resources - Policy 2511, Alcohol Testing Program
6. Human Resources - Policy 2507, Federal Drug-Free Workplace Act

POLICY AUTHORITY

1. Missouri Revised Statutes Chapter 302 - Drivers & Commercial Drivers' Licenses
2. Missouri Revised Statute Chapter 307 - Vehicle Equipment Regulations
3. Missouri Revised Statute chapter 304 - Traffic Regulations
4. Missouri Driver Guide
5. Missouri Commercial Driver License Manual

B. Drinking Water [29CFR 1910.141(B) – 29CFR 1926.51(A)]

Water for drinking purposes shall be readily available and must be obtained from known safe and approved sources. [29CFR 1910.141 (b) (iii)]

Portable water containers will be made available and when in constant use, should be cleaned and sterilized at least once each week with a chlorine bleach solution (1/4 cup bleach per 1 gallon water) and rinsed thoroughly. Paper cups furnished by the department are to be used. [29CFR 1910.141(B) (1) (vi)]

Policy 2508

From Human Resources

PERSONNEL POLICY MANUAL

MoDOT Personnel Policy Title: Drug Testing Program

Policy Number: 2508 **Chapter Title:** Employee Conduct

Effective Date: January 1, 2009

Supersedes Policy Number: 2508 **Dated:** July 1, 2008

Approved By: Micki Knudsen, Human Resources Director

(Signature on file)

Contents

- 1 POLICY STATEMENT
- 2 PROVISIONS / REQUIREMENTS
- 3 CROSS REFERENCES
- 4 PROCEDURE

POLICY STATEMENT

The department will conduct drug tests on applicants and employees as described in this policy. This testing will be done to provide an efficient, safe work environment for department employees and protect the public by ensuring employees are free from the effects of illegal drug use or drug abuse on the job and to comply with U.S. Department of Transportation (DOT) regulations. Testing procedures will comply with drug testing requirements of DOT.

PROVISIONS / REQUIREMENTS

SECTION I - GENERAL

1. Employees are prohibited from taking any illegal drugs or controlled substances (unless prescribed for them by a person licensed to practice medicine), which might impair performance during working hours. Under Personnel Policy 2507, "Federal Drug-Free Workplace Act," employees are required to inform their immediate supervisor when they are taking lawfully prescribed drugs that may impair their work performance. Supervisors must avoid assigning safety-sensitive functions to employees if their prescriptions cause safety concerns (drowsiness, blurred vision, etc.).
2. The department will conduct drug tests on all external applicants who accept conditional job offers and employees in accordance with this personnel policy. Employees who test positive on drug tests will be dismissed from employment with the department.
3. Employees who unlawfully manufacture, distribute, dispense, possess, or use controlled substances on the job will be disciplined according to procedures of Personnel Policy 2507, "Federal Drug-Free Workplace Act."

SECTION II - TESTING PROCEDURES

4. DOT regulations require the department to conduct drug tests as described in this personnel policy for:
 - A. External applicants who are offered positions which require a commercial driver's license (CDL).
 - B. Employees in non-CDL positions who are offered CDL positions.
 - C. Employees in CDL positions.

Although not specifically required by DOT regulations, the department will also conduct drug tests as described in this personnel policy for:

- 1). External applicants who are offered non-CDL positions.
- 2). Employees in non-CDL positions.

Applicants, employees, and collection facilities must be notified whether a drug test is being conducted due to DOT requirements (for CDL positions) or department requirements (for non-CDL positions). This notification may be provided by the local human resources staff for pre-employment/post-offer tests, the district/division risk management staff or by the supervisor for other categories of tests.

SECTION III - TESTING CATEGORIES

Pre-Employment/Post-Offer Testing

5. External applicants will be subject to drug testing after accepting a conditional offer of employment to either a wage or a salaried position. External applicants who test positive will be informed in writing that the department's offer is withdrawn. These applicants (as well as applicants who refuse to be tested, adulterate or substitute a urine sample, or fail to report for a test) will be informed they will not be considered now, or in the future, for employment. They will be given information for referral to a local Substance Abuse Professional (SAP).

Employee Testing

6. Wage and salaried employees will be subject to drug testing if they meet one or more of the conditions listed below. Further explanations of these conditions for testing are provided in paragraphs 7-10.

- A. Random testing for employees in CDL and other safety-sensitive positions. (See paragraph 7.)
- B. After being given a conditional offer to fill a CDL or other safety-sensitive position. (See paragraph 8.)
- C. When evidence provides reasonable suspicion an employee is drug impaired while on duty. (See paragraph 9.)
- D. Post-accident testing - when involved in a serious accident. (See paragraph 10.)

Random Testing

7. DOT regulations require the department to conduct random drug tests on employees in positions which require a CDL. Although not specifically required by DOT regulations, the department will also conduct random drug tests on employees in positions which are safety-sensitive but do not require a CDL. The department will ensure the number of tests conducted annually will meet or exceed the federal testing requirements.

Safety-Sensitive Job Fill Testing

8. Wage and salaried employees in non-safety-sensitive positions selected to fill CDL or other safety-sensitive positions (promotion, demotion, or transfer) will receive a conditional offer until they test negative on a drug test. Employees changing from wage to salaried status will be tested only if they are moving from non-safety-sensitive positions to safety-sensitive positions. Employees who test positive for drugs will be dismissed from employment with the department.

Reasonable Suspicion Testing

9. Wage and salaried employees in any position will be required to complete a drug test when evidence shows reasonable suspicion an employee has:

- A. Used illegal drugs on the job.
- B. Performed job duties while affected by drugs.
- C. Used illegal drugs off the job (for employees in CDL and other safety-sensitive positions only).

The decision to test must be based on a reasonable belief by a supervisor, who has been trained in the detection of illegal drug use, that the employee has worked while affected by drugs. Information on what may provide reasonable suspicion is outlined in Procedures Manual for Personnel Policy 2508. If a drug test is required, it must be completed within 32 hours after the suspicious behavior is observed and discussed with the employee. Employees tested due to a reasonable suspicion will be suspended without pay between the time they provide a urine sample and the test results are known. Employees who have negative test results will be allowed to return to work with back pay and benefits. Employees whose results are positive on this test will be dismissed from employment with the department.

Post-Accident Testing

10. There are two categories of testing under post-accident testing, as noted below. Employees tested under post-accident testing criteria will not be suspended without pay while waiting for test results. These employees will be allowed to return to their normal assignments pending their tests results, per DOT regulations.

A. DOT Required Testing: Wage and salaried employees in CDL positions will be required to complete a drug test when directly involved in a serious accident - an accident in which they are driving a commercial motor vehicle (CMV) on a public road and the accident resulted in either:

- 1) A human fatality.
- 2) A citation being issued to the driver under state or local laws for a moving traffic violation and one of the following two situations existed:
 - a. Serious bodily injury occurred to one or more of the drivers or passengers, which required medical treatment away from the scene of the accident.
 - b. Disabling damage occurred to one or more of the vehicles, which required any of the vehicles to be towed away from the scene of the accident.

Due to the restrictions for testing of this category, especially that the accident be on a public road, supervisors are expected to contact law enforcement officials to help investigate the accident. Whether a law enforcement official arrives or not, supervisors are responsible for determining if a drug test should be required.

If a drug test is required, it must be completed within 32 hours following the accident. A drug test cannot be required after 32 hours.

B. Department Personnel Policy Required Testing: Although not specifically required by DOT regulations, the department will also conduct post-accident drug testing on any employee under the circumstances described below. The criteria in both (1) and (2) below must be met to require a drug test by department personnel policy.

- 1) When the employee is on department business and directly involved in an accident on public or private property in which the circumstances show the employee either caused the accident, or failed to take reasonable measures to avoid the accident.
- 2) The accident caused either:
 - a. A fatality or serious bodily injury requiring medical treatment away from the scene; or
 - b. Property damage (public or private) in excess of \$5,000.

If a drug test is required under department personnel policy, it must be completed within 32 hours following the accident. A drug test cannot be required after 32 hours.

SECTION IV – VOLUNTARY REHABILITATION OR EDUCATION

11. The department encourages employees who feel they have a drug problem to voluntarily participate in a drug rehabilitation or drug education program, but these employees are subject to the same tests as any other employee. When employees have been charged with a violation of a criminal drug statute or told to complete a drug test, they may not enter a drug rehabilitation program to avoid disciplinary action.

Employees are responsible for the cost of their rehabilitation or drug education program. Employees may contact the Employee Assistance Program or their insurance provider to learn what coverage they have for a drug rehabilitation or drug education program.

Salaried employees who attend a drug rehabilitation or drug education program may utilize accumulated sick leave, annual leave, or compensatory time, if needed, for time spent in the program during which they are not able to work. Share Leave will not be available for time spent in a drug rehabilitation or drug education program. Employees who use all their paid leave time may be placed on sick leave without pay status to complete the program; or they may be allowed to claim unpaid Family and Medical Leave (FMLA), if they have not used their limit of FMLA during the previous 12 months and the leave time qualifies under the Family and Medical Leave Act.

SECTION V – DISCIPLINE

12. Testing positive on a drug test is considered misconduct connected to work and will result in the employee being dismissed from employment.

13. Employees who test positive, refuse to complete a required drug test, adulterate a sample, substitute a sample, or fail to report for a drug test when scheduled, will be dismissed from employment and will not be eligible for rehire with the department. If a test should be cancelled for any reason, then the employee will have a second test and, upon the recommendation of the Medical Review officer, it may be a direct observation collection. The results of this second test will determine if the employee's test is positive or negative.

SECTION VI - TEST RESULT CHALLENGES

14. Applicants and employees who wish to challenge test results when their original drug tests are positive may do so within 72 hours of when the Medical Review Officer (MRO) notifies them of their positive test result. Applicants and employees will be responsible for paying for transporting their sample to the second laboratory, laboratory testing, review by an MRO, and other related costs. The results of these second tests will determine what action will be taken.

If the employee chooses to challenge the results of his/her test results, he/she will remain in a suspension without pay status pending the results of the challenge. If the results of the challenge come back positive, the employee will be terminated from employment. If the results come back negative, the suspension without pay will be cancelled and the employee will be granted back pay credit.

15. Employees who feel they have unfairly been required to complete a drug test under reasonable suspicion may file a grievance through Personnel Policy 2100, "Grievance Procedure." Employees may not file grievances related to other required drug tests. Employees dismissed for a positive drug test may have rights to a termination hearing as outlined in Personnel Policy 2103, "Formal Termination Hearings."

SECTION VII - ADMINISTRATION

16. Administration of the department's drug testing program will be handled by the Risk Management Division who will be responsible for maintaining all records relating to the drug testing program. All information specifically related to drug testing of employees and external applicants is confidential and will be treated as such by those who have a need for the information in the performance of their duties.

17. Except as specifically required by DOT regulations, the director of MoDOT shall have discretion to vary the terms of this personnel policy if individual circumstances warrant.

CROSS REFERENCES

Personnel Policy 2100, "Grievance Procedure"

Personnel Policy 2103, "Formal Termination Hearings"



Personnel Policy 2507, "Federal Drug-Free Workplace Act"

PROCEDURE

Procedure 2508, "Drug Testing Program"

Retrieved from "http://hr.modot.mo.gov/index.php/Policy_2508"

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 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Overhead Power Lines	
	<u>Effective</u>	February 1, 2014	
	<u>Supersedes</u>	101 Electrical Safety, July 1, 2011	

POLICY STATEMENT

Overhead power lines shall be considered energized until the utility company indicates otherwise. Work activities should be planned to keep a minimum distance of 10 feet from an overhead power line.

DEFINITIONS

1. Authorized Employee – Identified by Department head as having appropriate training and PPE (i.e. Signal Electrician, Facility Maintenance) for working around electricity.
2. PPE – Personal protective equipment

POLICY REQUIREMENTS

1. Employees shall consider all overhead lines to be energized until the utility company indicates otherwise.
2. When a minimum distance of 10 feet cannot be maintained, employees should:
 - a. Have the utility company shut down or insulate the line where practical.
 - b. When operating equipment with elevated beds, booms, etc., employees should use a spotter when one is available.
 - c. Ensure work is performed by authorized personnel only.
3. When downed power lines are identified employees should:
 - a. Call utility company and law enforcement
 - b. Do not drive over a downed power line until line is confirmed dead by utility.
 - c. Do not move downed power line by hand or other means (stick, shovel, etc.) until line is confirmed dead by utility.
 - d. Do not touch people and/or equipment that are in contact with a downed power line until the power line is confirmed dead by the utility.

PROCEDURES

1. Prior to operation, overhead utility lines should be located and marked. Marking may include cones, trim lines, cone with sleeves, etc.

2. Operators of aerial trucks and equipment shall watch for overhead utilities, prior to raising, lowering, or swinging the bucket or boom. When multiple utility lines are present a spotter should be used if one is available.
3. Vehicles equipped with booms shall have the boom lowered and secured before moving the vehicle.
4. Work involving elevated dump beds with overhead utility lines present shall have a designated spotter in addition to the marking of the lines.
5. Employees involved in an incident that results in their vehicle coming into contact with a downed power line should not get out of their vehicle unless it is on fire. If the vehicle is on fire:
 - a. Do not touch the ground and the vehicle at the same time. Do your best to jump clear of the vehicle and land with both feet together.
 - b. Next, shuffle or hop away from the vehicle, keeping both feet close together, to minimize the path of electric current and avoid electric shock.

TRAINING

1. Gear Up - Basic Safety Training (LMS code 24492) to be completed within first week of hire.
2. Additional training available - Electrical Safety , awareness only (LMS code 24548)

CROSS REFERENCES

1. OSHA 1926 Subpart K - Electrical
2. Missouri Statutes 319.075 to 319.090 - Overhead Power Line Safety Act

Chapter : 2 Safety Procedures

Section: 204 Statewide Excavation Policy –
Trenching & Shoring Procedures

Sub- Section:

Policy/Procedure #:

Effective Date: 01/01/2010

Supersedes: 01/01/2004

Dated:

General

The Missouri Department of Transportation Statewide Excavation Policy-Trenching and Shoring Procedures meet the intent of the Occupational Safety and Health Administration's 29 CFR 1926, Subpart P: Excavations. These procedures apply to all open excavations made in the earth's surface and to all MoDOT employees who work in or around an open excavation.

No employee shall be asked to enter an excavation, four (4) feet or more in depth, until that employee has been adequately trained. Excavations five (5) feet or more in depth, where employee occupancy can be reasonably anticipated, must be protected by an appropriate protective system determined by the competent person. The competent person shall remain on site when protective systems are required and the excavation is occupied.

An Alternative Procedure

Should any individual District or Division find this procedure to be too costly, time consuming or labor intensive for the anticipated number of excavations performed, they may enter into a contract with a competent provider. It then becomes the contractor's job to comply with the above-mentioned OSHA standard.

Purpose

The purpose of the Statewide Excavation Policy – Trenching and Shoring Procedure is to prevent incidents through training and equipping employees to eliminate or control the hazards associated with working adjacent to an excavation; entering; working in and exiting from an excavation.

Scope and Application

These procedures apply to all excavations where employee occupancy can reasonably be anticipated.

Training

No employee shall be allowed to enter an excavation deeper than 4 feet until they have been adequately trained. Employee training will consist of hazard identification, installation and maintenance of approved protective systems or methods; soil conditions; and emergency and evacuation procedures.

Competent person training will include additional training that includes soil classification, protective system selection, atmospheric testing, and excavation inspections.

All employees' training will be documented and updated as necessary.

Specific Excavation Requirements

- 1) **Surface Encumbrances:** All surface encumbrances (power lines, light poles, etc.) that create a hazard to employees shall be removed or supported, as necessary to safeguard employees.
- 2) **Underground Installations:** MoDOT personnel shall contact Missouri One Call System as well as other utilities to ensure that all underground utilities are identified and marked prior to doing excavation work.

When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by a safe and acceptable means.

While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

- 3) **Access and Egress:** A stairway, ladder, ramp or other safe means of egress shall be located in excavations that are four (4) feet or more in depth so there is no more than 25 feet of lateral travel distance for employees.
- 4) **Exposure to Falling Loads:** No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded.

- 5) **Warning System for Mobile Equipment:** When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, spotters, or stop logs. If possible, the grade should be away from the excavation.
- 6) **Hazardous Atmospheres:** Adequate precautions shall be taken if a hazardous atmosphere exists or could reasonably be expected to exist in excavations four (4) feet or greater in depth. Hazards may include oxygen deficient atmospheres (less than 19.5 percent oxygen), concentrations of a flammable gas in excess of 20 percent of the lower flammable limit of the gas, or exhaust gases from nearby equipment such as carbon monoxide. Safety Officers shall be contacted when a hazardous atmosphere is suspected in order to conduct air monitoring prior to entry. Refer to the Confined Space Policy located in the Risk and Benefits Management Manual.

Every effort should be made to engineer out these hazards before equipping employees with personal protective equipment (PPE) such as respirators. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

- 7) **Protection from Hazards Associated with Water Accumulation:** Employees shall not work in excavations in which there is accumulated water unless adequate precautions have been taken to protect employees. Water removal shall be monitored by a competent person to ensure proper operation of pumps or other means used to remove water are effective.

If excavation work interrupts the natural drainage of surface water, diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person.

- 8) **Stability of Adjacent Structures:** Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems, such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.

Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted except when:

- a) A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure.
- b) The excavation is in stable rock.
- c) A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so it is unaffected by the excavation activity.
- d) A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

Sidewalks, pavements and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employee/public from the possible collapse of such structures. Refer to the ***Traffic Control for Field Operations Manual*** for detour information.

- 9) **Protection of Employees from Loose Rock or Soil:** Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such working materials, excavated spoil and/or equipment at least two (2) feet from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination or both if necessary.

10) **Inspections:** Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.

Should the competent person find evidence of a situation that could result in a possible cave-in, indication of failure of protective systems, hazardous atmospheres, or other hazardous conditions, employees shall be immediately removed from the hazardous area until the necessary precautions have been taken to ensure their safety. Employees will not

be allowed to enter the excavation until approved by the competent person.

11) Fall Protection: Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails shall be provided where walkways are six (6) feet or more above lower levels. For more information refer to fall protection and open excavations referred to in the *Traffic Control Manual for Field Operations Manual*.

12) Protection of Employees in Excavations: Each employee in an excavation shall be protected from cave-ins by an adequate protective system except when:

- a) Excavations are made entirely in stable rock.
- b) Excavations are less than 5 feet in depth **AND** examination of the soil by a competent person provides no indication of a potential cave-in.

Protective systems shall have the capacity to resist, without failure, all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

Employees are expressly forbidden to enter trenches, which exceed 20 feet in depth, unless the trench is protected by a system approved by a Registered Professional Engineer. A copy of the stamped letter or tabulated data shall be on file in the district or division Risk and Benefits Management office.

13) Soil Classification: Each soil and rock deposit shall be classified by a competent as Stable Rock, Type A, Type B, Type C, or Type C-60 in accordance with the definitions set forth in Appendix A.

MoDOT recognizes the additional classification of Type C-60 soil. The C-60 soil classification may be used in the design of a protective system if the classification and subsequent designs have been approved by a registered professional engineer. To be classified as Type C-60 soil, the soil must meet all the conditions specified in the Type C-60 Soil Checklist, see Appendix A.

The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis in accordance with acceptable testing in Appendix A.

In a layered excavation, the excavation shall be classified in accordance with its weakest layer. However, each layer

may be classified individually where a more stable layer lies under a less stable layer.

If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

Requirements for Protective Systems

- 1) **Materials and Equipment:** Materials and equipment used for protective systems shall be free from damage or defects. Damaged systems will be taken out of service immediately and shall remain out of service until approved for use by a Registered Professional Engineer. In addition, protective systems shall be used and maintained in a manner that is consistent with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.
- 2) **Installation and Removal of Support:** Employees shall not be permitted to enter an excavation during installation or removal of the support system.

Support systems shall be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support system.

Individual members of the support system shall not be subjected to loads exceeding those, which they were designed to withstand.

Installation of support systems shall always begin at the top of the excavation. Removal shall begin at the bottom of the excavation. During removal, support systems shall be released slowly so as to note any indication of possible failure of the remaining members of the structure or possible came-in of the sides of the excavation.

Backfilling shall progress at the same time as the removal of support systems from excavations.

- 3) **Sloping and Benching Systems:** Employees shall not be permitted to work on the faces of sloped or benched excavations at levels above other employees except when employees at the lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.

- 4) **Shield Systems:** Shield systems shall not be subjected to loads exceeding those, which the system was designed to withstand. Employees will not repair or attempt to repair shield systems that are damaged.

Shields shall be installed in a manner to restrict lateral or other hazardous movement of the shield in the event of the application of sudden lateral loads. The width of the excavation shall not exceed the width of the shield plus 12 inches.

Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields. Ladders shall be located inside the shield system.

Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically. Employees may remain in a shield that is being moved horizontally, but only if that shield is designed for such movement.

Excavations of earth material to a level not greater than two (2) feet below the bottom of a shield shall be permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench, and there are not indications while the trench is open of a possible loss of soil from behind or below the bottom of the shield.

Design of Sloping and Benching Systems: Sloping and benching systems shall be in accordance with one of the following options:

Option 1. Determination of slopes and configurations using Appendices A and B.

Maximum allowable slopes, and allowable configurations for sloping and benching systems, shall be determined in accordance with the conditions and requirements set forth in appendices A and B.

Option 2. Design by a registered professional engineer.

Sloping and benching systems not utilizing Option 1 of section shall be approved by a registered engineer.

Designs shall be in written form and shall include at least the following:

- a) The magnitude of the slopes that were determined to be safe for the particular project;
- b) The configurations that were determined to be safe for the particular project;
- c) The identity of the Registered Professional Engineer approving the design.

At least one copy of the design shall be maintained at the jobsite while the slope is being constructed. After that time the design need not be at the jobsite, but a copy shall be made available upon request.

Design of Support Systems, Shield Systems, and Other

Protective Systems: Designs of support systems, shield systems, and other protective systems shall be selected in accordance with the requirements of this policy as follows:

1. **Option 1:** Design using manufacturer's tabulated data.

Design of support systems, shield systems, or other protective systems that are drawn from manufacturer's tabulated data shall be in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

Deviation from the specifications, recommendations, and limitations issued or made by the manufacturer shall only be allowed after the manufacturer issues specific written approval.

Manufacturer's specifications, recommendations, and limitations and manufacturer's approval to deviate from the specifications, recommendations, and limitations shall be in written form at the jobsite during construction of the protective system. After that time, the data may be stored off the jobsite, but a copy shall be sent to the district or division Risk and Benefits Management office.

2. **Option 2:** Design by a registered Professional Engineer.

Support systems, shield systems, and other protective systems not utilizing Option 1 shall be approved by a Registered Professional Engineer.

Designs shall be in written form and shall include the following:

- a) A plan indicating the size, types, and configurations of the materials to be used in the protective system.
- b) The identity of the Registered Professional Engineer approving the design.

At least one copy of the tabulated data, which identifies the Registered Professional Engineer who approved the data, shall be maintained at the jobsite during construction of the protective system. After that time this data may be stored off the jobsite, but a copy shall be sent to the district or division Risk and Benefits Management office.

Appendix A:



Trenching and Shoring Appendix A.doc

Appendix B:



Trenching and Shoring Appendix B.doc

Glossary:



Trenching and Shoring Glossary.doc

Risk and Benefits Management On-line Manual



Type: Safety/Health

Chapter : 2 Safety Procedures

Section: 205 Statewide Fall Protection

Sub- Section:

Policy/Procedure #:

Effective Date:06/01/2008

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Dated: 08/29/2006

* Notes areas of Revision

General

Falls are the leading cause of death and/or serious injury in construction and general industry. Each year the National Safety Council estimates there are over 100,000 injuries and deaths attributed to falls in the work place. Slips, trips, and fall injuries are the most commonly reported incident within MoDOT

The purpose of this policy is to provide uniform guidelines for the protection of employees working 6 feet or more above the ground and/or 6 feet or more above a lower level. Employees shall be protected from fall hazards and falling objects in accordance with OSHA, 29 CFR 1926.500-503.

Purpose

For the purpose of this policy, this height is determined to be the distance from one surface to another, as in the case of the ground to a

structure's roofline, or from one level to another, as in the case of a building mezzanine over a building's floor.

Concerns covered by this policy include, but are not limited to:

- Ramps, runways and other walkways
- Wall openings and other walking and/or working surfaces
- Roofing work and leading edge work
- Bridge work
- Man-lift and/or bucket type trucks
- Rock cuts, cliffs, and/or bluffs
- Excavations; and
- Controlled access zones

This policy is not intended to cover employees climbing portable ladders or fixed ladders less than twenty feet in height where it is infeasible to find a secure anchor point (such as in routine signing). Nor does this policy cover employees entering or exiting motorized equipment, such as a dump truck (including the bed), loaders, pull pavers, etc., that may be more than 6 feet above the ground. Employees using ladders or entering, exiting or walking along the edge of equipment shall maintain at least three points of contact where feasible.

Training

All MoDOT workers who work or have the potential to work 6 feet or more above the ground shall be trained in fall protection. Workers that

are required to wear personal fall arrest systems shall be trained in their use, as well as the proper inspection, and maintenance of their system. In addition, these employees shall be trained to, but not limited to, identifying potential fall hazards, determining which products to use in specific work environments, proper anchoring procedures and fall rescue and retrieval procedures.

All employees' training will be documented and updated as necessary.

General Requirements

The OSHA Standard, 29 CFR 1926.500-503, describes an employer's duty to provide fall protection, sets the criteria and practices for all fall protection systems and the required training. It also covers hazard assessment, fall protection and safety monitoring systems. The information contained in the OSHA Standard is a minimum standard.

Authority and Responsibilities

The employee's supervisor is directly responsible for the employee's safety. As such, the supervisor is responsible for ensuring the following:

- Obvious fall hazards are identified and hazardous conditions are corrected
- Employees under their control and affected by this policy, are adequately trained in fall protection
- Employees required to wear personal fall arrest systems receive additional training in the wearing, inspection and maintenance of their system
- The purchase of fall protection or personal fall arrest systems meet departmental policy; and
- The replacement of personal fall arrest devices per the manufacturers recommendations, and

- All employees under their control follow the described practices within this policy

Employees are responsible for complying with the practices within the Fall Protection Policy.

Employees are also responsible for assuring they do not exceed the working load limits of the fall arrest systems per the manufacturers recommendations.

Specific Fall Protection Requirements

1.) Controlled Access Zones

Controlled access zones, may be created to limit entrance to areas where leading edge work and other operations are taking place, shall be defined by a controlling line or other means that restricts access. Control lines shall consist of ropes, wires, tapes or equivalent material, supporting stanchions and each shall:

- Be flagged or otherwise clearly marked at not more than six foot intervals with high visibility material;
- Be rigged and supported in such a way that the lowest point (including sag) is not less than 39 inches from the walking/working surface and the highest point is not more than 50 inches;
- Be strong enough to sustain stress of not less than 200 pounds;
- Extend along the entire length of the unprotected leading edge and shall be parallel to the unprotected or leading edge; and

- Be connected on each side to a guardrail system or wall.

When control lines are used they shall be erected not less than six feet and no more than 25 feet from the unprotected or leading edge, except when precast concrete members are being erected. In the latter case, the control line shall be erected not less than six feet and no more than 60 feet or half the length of the member being erected, whichever is less, from the leading edge.

On floors and roofs where guardrail systems are not in place prior to the start of overhead operations, controlled access zones shall be enlarged as necessary to enclose all points of access, material handling areas and storage areas.

On floors and roofs where guardrail systems are in place, but need to be removed to allow leading edge work or delivery of materials to take place, only the portion of the guardrail necessary to accomplish that work shall be removed.

2.) Excavations

Excavations where employees or the general public are permitted to cross over the excavations shall be protected by the use of guardrail systems, fence barricades, or covers.

For additional information, see MoDOT's Safe Excavation Policy.

3.) Guardrail Systems

If a guardrail system is used to protect employees from falls, the system shall meet the following criteria:

- Top rails and midrails of guardrail systems shall be at least one quarter inch in diameter;
- Wire rope may be used for top rails. The wire rope shall be marked

every 6 feet with highly visible material;

- The top edge height of top rails or guardrails shall be 39 to 45

inches above the walking level;

- Screens, midrails, mesh, intermediate vertical members or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there are no walls or parapet walls at least 21 inches high;

- When midrails are used, they shall be installed at a height midway between the top edge of the guardrail system and the walking/working level;

- Intermediate members, such as balusters, when used between posts, shall not be more than 19 inches apart;

- Other structural members, such as additional midrails and panels, shall be installed so that there are no openings larger than 19 inches;

- The guardrail system shall be capable of withstanding a force of at least 200 pounds;

- Midrails, screens, mesh, intermediate vertical members, solid panels and equivalent structural members shall be capable of withstanding a force of at least 150 pounds;

- Guardrail systems shall have smooth surfaces to protect employees from punctures or lacerations and prevent clothing from snagging;

- Chromated Copper Arsenate (CCA) treated materials should not be used.

- The ends of top rails and midrails shall not overhang terminal posts, except where such overhang does not constitute a projection or impaling hazard;

- A chain gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting/lifting operations are not taking place;

- Guardrail systems with a gate shall be used around holes that are access points to prevent employees from falling into these holes; and
- If guardrail systems are used at the sides or edges of ramps and runways, they shall be erected on each side or edge.
- Toe boards (minimum 3.5 inches in height) are a low protective barrier that prevents material and equipment from falling to lower levels. While they are not part of a fall protection system, their use may be required.

4.) Personal Fall Arrest Systems

The use of a body belt for fall protection is strictly prohibited!

The user, prior to each use, shall inspect all personal fall arrest systems. The inspection shall include examination for wear, damage and other deterioration. If, during the inspection, the user discovers defects or damage, the user shall immediately remove the component from service.

All fall arrest systems that are removed from service shall be destroyed immediately by cutting and/or completely disabling the component.

*The user and their supervisor are responsible for ensuring the personal fall arrest systems do not exceed the manufacturer's recommended life of the system. Fall arrest systems that have exceeded the manufacturer's recommendations, shall be removed from service immediately. If the fall arrest system is not accompanied by manufacturer's recommendations, the system may be used until inspections prove the system no longer safe.

The use of any lifeline, or lanyard for hoisting or lifting materials is strictly prohibited

*All employees that are required to utilize personal fall arrest systems as a part of their daily duties shall be supplied with fall suspension trauma systems. The employees should utilize fall suspension trauma systems as a means of added protection in the event of a fall.

D-Rings and snap hooks shall have a minimum tensile strength of 5,000 pounds without cracking, breaking or suffering permanent deformation. Snap hooks shall be sized to be compatible with the member to which they will be connected, or shall be of a locking configuration.

Note: Only self-locking snap hooks with a self-closing, self-locking keepers, which remain closed and locked until unlocked and pressed open for connection or disconnection shall be used with personal fall arrest systems.

A hook is considered to be compatible when the diameter of the D-ring to which the snap hook is greater than the inside length of the snaphook when measured from the bottom (hinged-end) of the snaphook keeper to the inside curve of the top of the snaphook. Thus, no matter how the D-ring is positioned or moved with the snaphook attached, the D-ring cannot touch the outside of the keeper, thus depressing it open.

The use of non-locking D-rings is strictly prohibited.

On suspended scaffolds or similar work platforms with horizontal lifelines that may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.

Horizontal lifelines shall be designed, installed and used under the direction of a qualified person. As part of a complete fall arrest system, horizontal lifelines shall maintain a safety factor of at least two. Lifelines shall be protected against being cut or abraded.

Self-retracting lifelines and lanyards that automatically limit free fall distance to two feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

Self-retracting lifelines and lanyards that do not limit free fall distance to two feet or less, ripstitch lanyards, and tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

***The use of retractable lanyards is recommended when employees**

are performing duties using bucket trucks and/or man lifts

Ropes and straps used in lanyards, lifelines and body harnesses shall be made of synthetic fibers.

Anchorage shall be designed, installed and used under the direction of a qualified person. Anchorage used to attach personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and shall be capable of supporting at least 5,000 pounds per person attached.

Lanyard and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.

All fall arrest systems shall meet current standards. All obsolete systems shall be removed from service and destroyed immediately.

5.) Personal Positioning Device

Body harness systems shall be set up so that a worker can not free fall more than 2 feet as the device allows. All harnesses shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

6.) Warning Line Systems

Warning line systems used on roofs shall consist of ropes, wires or chains, and supporting stanchions. The warning lines shall be constructed as follows:

- Flagged at not more than six foot intervals with high visibility

material;

- Rigged and supported so that the lowest point including sag is no less than 34 inches from the walking/working surface and its highest point is no more than 39 inches from the walking/working surface;

- Stanchions, after being rigged with warning lines, shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking/working surface, perpendicular to the warning line and in the direction of the floor, roof or platform edge;
- The rope, wire or chain shall have a minimum tensile strength of 500 pounds and after being attached to the stanchions, shall support without breaking the load applied to the stanchions as prescribed above; and
- Shall be attached to each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in the adjacent section before the stanchion tips over.

When mechanical equipment is being used, the warning line shall be erected not less than 6 feet from the roof edge parallel to the direction of mechanical equipment operation, and not less than 10 feet from the roof edge perpendicular to the direction of mechanical equipment operation.

When mechanical equipment is not being used, the warning line shall be erected not less than six feet from the roof edge.

7.) Hoist/Lifting Areas

All employees in a hoist or lifting area shall be protected from falling six feet or more by guardrail systems or personal fall arrest systems. If guardrail systems or portions thereof must be removed to facilitate hoisting/lifting operations, as during the loading/unloading of material from a mezzanine area, and a worker must lean through the access opening to receive or guide materials, that employee shall be protected by a personal fall arrest system.

8.) Openings, Ramps, Runways and Other Walkways

All openings, ramps, runways, and other walkways crossing or covering openings 6 feet above a lower level or more, shall be protected with a guardrail system.

9.) Wall Openings

All employees working on, at, or near wall openings where the bottom edge of the wall opening is 6 feet or more and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface, shall be protected by use of either a guardrail system or a personal fall arrest system.

10.) Covers

Covers used over openings in the roadways and vehicular aisles shall meet the following criteria:

- Support twice the maximum axle weight of the largest vehicle the cover might be subjected;
- Support twice the weight of employees, equipment and materials that may be imposed on the cover at anytime;
- Be secured at all times; and
- Be identified with markings adjacent to the area, indicating
“Steel Plate” or “Cover”

11.) Roofs

Low-Sloped Roofs

All employees working on low-sloped roofs with unprotected sides and edges 6 feet or more above a lower level shall be protected from falling by guardrail systems or a combination warning line system and personal fall arrest system, or a combination warning line system and a safety monitoring system.

Steep Roofs

All employees on a steep roof with unprotected sides and edges 6 feet or more above a lower level shall be protected by either guardrail systems with toe boards or a personal fall arrest system.

12.) Protection from Falling Objects

When guardrail systems are used to prevent materials from falling from one level to another, all openings shall be small enough to prevent potential object falling through the opening. No materials or equipment shall be stored within 4 feet of working edges.

During roofing work, materials and equipment shall not be stored within 6 feet of a roof edge unless guardrails are erected at the edge, and materials piled, grouped, or stacked near a roof edge shall be stable and self-supporting.

During work from a man-lift or bucket type truck, the operator will position the bucket so any material/equipment dropped will fall within the basket. If this is not possible, then the affected lane(s) of traffic shall be closed.

13.) Canopies

When canopies are used as protection from falling objects they shall be constructed strong enough to prevent collapse and to prevent penetration by any objects that fall onto them.

14.) Toe boards

When toe boards are used as protection from falling objects, they shall be erected along the edges of the overhead walking or working surface for a distance sufficient to protect persons working below. Toe boards shall be capable of withstanding a force of at least 50 pounds applied in any downward or outward direction at any point along the toe board. Toe boards shall be a minimum of 3.5 inches tall from their top edge to the level of the walking/working surface, have no more than 0.25 inches clearance above the walking/working surface, and be solid or have openings no larger than one inch in size.

15.) Safety Monitoring Systems

If no fall protection, including personal fall arrest systems, warning line systems, controlled access zones or guardrail system can be implemented, then a safety monitoring system shall be established.

Note: a safety monitoring system shall only be used when all other fall protection systems or device options have been exhausted

This is the least desirable method and shall only be used as a last resort. If a safety monitor is used, this person shall have no other duty that will distract or take away from this duty.

In addition, the safety monitor shall:

- Be competent in the recognition of fall hazards;
- Be capable of warning workers of fall hazard dangers;
- Detect unsafe work practices in accordance with this policy;

- Work on the same surface as the workers and maintain visual contact of all employees;
- Be close enough to the work operations to see all workers and communicate orally with the workers.

Mechanical equipment shall not be used or stored in areas where safety-monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.

No worker, other than one engaged in work on low-sloped roofs, or covered by a personal fall arrest system, shall be allowed in an area where the employee is being protected by a safety monitoring system.

All workers in a controlled access zone shall be instructed to promptly comply with all fall warnings issued by the safety monitors.

Fall Protection

Glossary

Anchorage: A secure point of attachment for lifelines, lanyards or deceleration devices.

Baluster: one of a number of closely spaced supports for a railing.

Body Belt: A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline deceleration device. **Use of body belts is strictly prohibited.**

Body Harness System: Straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest and shoulders with a means for attaching the

harness to other components of a personal fall arrest system.

Canopies: A protective covering erected over a walkway to protect persons from falling objects and materials.

Competent Person: A person that is capable of identifying existing and predictable hazards and is authorized to take prompt and corrective measure to eliminate or control these hazards.

Connector: A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.

Controlled Access Zone Systems: A work area designated and clearly marked in which certain types of work (such as masonry, over-head plastering, dry wall work etc.) may take place without the use of conventional fall protection systems, guardrail systems, or personal fall arrest systems to protect the employees working in the zone.

D-rings: A component of a personal fall arrest system, which connects the lifeline to a body belt or body harness.

Fall Suspension Trauma System – A protective system utilized in the event of a fall to relieve harness suspension pressure that may occur in a worker's lower extremities

Guardrail System: A barrier erected to prevent employees from falling to lower levels.

Hoist Area: The area around and below an area where materials or objects are being raised or lifted.

Lanyard: A flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline or anchorage.

Leading Edge: The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck), which changes location as additional floor, roof, decking or formwork sections are placed, formed or constructed.

Lifeline: A component consisting of a flexible line for connection to an

anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and that serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Low Sloped Roof: A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Opening: A gap or void 30 inches (76 centimeters) or more high and 18 inches (46 centimeters) or more wide, in a wall or partition, through which employees can fall to a lower level.

Personal Fall Arrest System: A system including but not limited to an anchorage, connectors and a body belt or body harness used to arrest an employee in a fall from a working level. **As of January 1, 1998, the use of a body belt for fall arrest is prohibited.**

Positioning Device System: A body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning backwards.

Qualified Person: One who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, work or project. **This is different than a competent person.**

Runways: A walkway provided for pedestrian traffic.

Safety Monitoring System: A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Self-Retracting Lifeline/Lanyard: A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal employee movement and which, after onset of a fall, automatically locks the drum and arrests the fall.

Snaphook: A connector consisting of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to

permit the hook to receive an object and, when released automatically closes to retain the object.

Stanchions: An upright bar, post or support.

Steep Roof: A roof having a slope greater than 4 in 12 (vertical to horizontal).

Toe board: A low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling. . Toe boards shall be a minimum of 3.5 inches tall from their top edge to the level of the walking/working surface, have no more than 0.25 inches clearance above the walking/working surface, and be solid or have openings no larger than one inch in size

Unprotected Sides and Edges: Any side or edge (except at entrances to points of access) of a walking/working surface (e.g., floor, roof, ramp or runway) where there is no wall or guardrail system at least 39 inches (1 meter) high.

Walking Working Surface: Any surface, whether horizontal or vertical, on which an employee walks or works, including but not limited to floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel. Does not include ladders, vehicles, or trailers on which employees must be located to perform their work duties.

Warning Line System: A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.

Work area means that portion of a walking/working surface where job duties are being performed.

Policy 0602

From Human Resources

PERSONNEL POLICY MANUAL

MoDOT Personnel Policy Title: Fit for Duty Review Program

Policy Number: 0602 **Chapter Title:** Safety and Health

Effective Date: March 1, 2007

Supersedes Policy Number: None **Dated:** None

Approved By: Micki Knudsen, Human Resources Director
(Signature on file)

Contents

- 1 POLICY STATEMENT
- 2 DEFINITIONS
- 3 PROVISIONS / REQUIREMENTS
- 4 CROSS REFERENCE

POLICY STATEMENT

The department and the Commission are committed to protecting the safety and health of Missouri Department of Transportation employees and ensuring that employees are able to perform or safely perform the essential work tasks of their job. Where employees have a condition/illness/injury that may make them unable to perform their essential work tasks and/or endangers their safety or the safety of others in the workplace, the department has the obligation to determine this and minimize such risks. Therefore, in such instances, a Fit for Duty Review may be required of such employees as described in this policy.

DEFINITIONS

Fit for Duty Review: A review process designed to assess an employee's ability to perform and/or safely perform the essential work tasks of his/her position. The review could include, but is not limited to, mandatory examinations and/or physicals, review of applicable medical documentation, or discussing the employee's ability to perform his/her job with appropriate medical providers.

Central Office Review Team: A team comprised of representatives from Central Office Human Resources and Risk Management Divisions with the Chief Counsel's Office providing legal input.

PROVISIONS / REQUIREMENTS

Employee/Supervisor Requirements

1. Employees must be able to perform the essential work tasks of their job. Therefore, the department may conduct a Fit for Duty Review for employees who have been identified as potentially unable to perform or safely perform the essential work tasks of their jobs.
2. Employees must immediately notify their supervisors of any non-work related illness/injury/condition, or the use of a medication, that may affect their ability to perform an essential work task and/or compromise their safety or the safety of their co-workers. Employees must also continually keep their supervisor updated on any subsequent changes to the status of their illness/injury/condition or use of medication.
3. Employees must work within their stated work restrictions when performing their job duties. If the employee has any temporary restrictions, please refer to Personnel Policy 0509, "Temporary Modified Duty Assignment."
4. Supervisors are required to report to their district/division human resources or risk management representative when they have concerns regarding an employee's ability to perform or safely perform essential work tasks.

The district/division human resources and risk management representatives shall determine whether a Fit for Duty Review should be forwarded to the Central Office Review Team. In cases where the matter involves a permanent restriction, a need for a medical release or where there is conflicting medical information, the Central Office Review Team should be consulted. No medical exam will be conducted without first consulting with the Central Office Review Team.

Medical Documentation Requirements

5. Those parties involved in the Fit for Duty Review Program will safeguard the confidentiality of all medical information disclosed during the process.
6. Refusal to cooperate with the requirements of the Fit for Duty Review, including, but not limited to, signing a medical release authorization and/or submitting to required examinations, may subject an employee to disciplinary action, up to and including termination.

Review Process Requirements

7. The Central Office Review Team will review cases where appropriate. Each employee's case will be analyzed on its individual merits. The Central Office Review Team will provide a recommendation regarding an employee's ability to perform or safely perform his/her essential work tasks based on the medical and other documentation/information to the appropriate district engineer or division leader/state engineer.

8. Based upon the recommendation from the Central Office Review Team, the district engineer or division leader/state engineer shall make a decision regarding the employee's employment status.

CROSS REFERENCE

Personnel Policy 0509, "Temporary Modified Duty Assignments"

Retrieved from "http://hr.modot.mo.gov/index.php/Policy_0602"

- This page was last modified on 22 February 2012, at 18:56.

Gasoline Cans

All new gasoline cans shall be of a construction approved by Underwriters Laboratory (UL) with the original factory cap and flame arrestor installed. No plastic gasoline cans shall be purchased.

The use of a 1 gallon UL, FM or ASTM approved plastic gasoline can will be allowed for mixed fuels only.

Gas cans shall be stored in separate storage buildings/areas away from spark producing equipment and operations.

All fuel cans shall be properly labeled.

All fuel cans shall be removed from the vehicle prior to filling.

- Operators shall make a pre-trip inspection of all Commercial Motor Vehicles (CMV) before use. Supervisors and operators will be held accountable for conducting pre-trip inspections for the CMV fleet. Employees should document and report any deficiencies to the direct supervisor who should in turn notify the equipment technician. For a complete list of components to be inspected, refer to Missouri's Commercial Driver's License Manual or the appropriate equipment training manual.
- Operators of non-commercial motor vehicles and equipment shall ensure routine maintenance is conducted in accordance with General Service's maintenance schedules. Visually inspect these vehicles and equipment and report any damage or deficiencies to their supervisor, appropriate mechanic and General Services Manager.

GENERAL SERVICES >> FLEET

Fleet Policies

Please refer to the MoDOT Policy Manual for the current fleet policies and procedures.

Fleet Related Policies

Personnel Policy 0504 - Vehicle Usage and Liability

Fleet vs Non fleet Definitions and Guidelines

Fleet vs Non Fleet

Fleet Lighting FAQs

FAQ Fleet Lighting

Fleet Lighting Guidelines EPG 616.27

includes lighting levels, conspicuity tape, warning lights and aerial equipment

Risk and Benefits Management On-line Manual



Type: Safety/Health

Chapter : 3 Safety Training

Section: 305 Forklift Safety Training

Sub- Section:

Policy/Procedure #:

Effective Date:01/01/2010

Supersedes: 04/01/2004

Dated:

INTRODUCTION

This class is designed to train forklift operators safe operating procedures of the forklift. It reviews the difference between the types of forklifts, the differences between how a forklift and an automobile operate, pre-use inspection and operating a forklift in hazardous locations. In addition to class room instruction, a driving exercise must be included.

PROCESS

Employees who are required to use a forklift to perform work activities must be trained in the proper inspection and operation of them. It is the responsibility of their supervisor to insure their employees are properly trained to operate the forklift. The Office of Risk and Benefits Management has the training materials and the district or central office safety officer may be of assistance in providing this training. Training materials include both written materials and a video.

All training should be documented. The documentation should include the following:

- Employee's Name
- Supervisor's Name
- Date of Training:
- Class Outline:
- Instructor(s) Name:
- All Tests:

Training records should be filed appropriately and retained for the duration of the

employee's employment with the department.

Gasoline Cans

All new gasoline cans shall be of a construction approved by Underwriters Laboratory (UL) with the original factory cap and flame arrestor installed. No plastic gasoline cans shall be purchased.

The use of a 1 gallon UL, FM or ASTM approved plastic gasoline can will be allowed for mixed fuels only.

Gas cans shall be stored in separate storage buildings/areas away from spark producing equipment and operations.

All fuel cans shall be properly labeled.

All fuel cans shall be removed from the vehicle prior to filling.

6. Hand Protection [29CFR 1910.138] shall be worn when working with hot material such as asphalt; when welding or cutting; and when handling chemicals as required by MSDS. Anti-vibration gloves shall be worn when operating equipment with vibratory hazards such as jackhammers, chain saws, vibratory tampers, concrete saws and pavement breakers, etc., unless the equipment has built-in anti-vibration protection, in which case the anti-vibration gloves are not required. All Department employees when engaged in field operations, equipment fabrication and warehousing activities should wear work gloves.

Chapter : 3 Safety Training

Section: 302 Hazardous Spills Training

Sub- Section:

Policy/Procedure #:

Effective Date: 01/01/2010

Supersedes: 08/26/2004

Dated:

INTRODUCTION

This training is intended for employees who drive department vehicles and frequently travel. It is designed to help employees recognize hazardous material spills and to know the proper reporting procedures if a spill is discovered.

REPORTING PROCEDURES

A. Introduction

The Department has the responsibility of maintaining a safe and usable highway system. Department employees, however, have not been trained in non-department hazardous waste identification, investigation, and/or removal. It is the Department's policy to take all reasonable precautions to prevent both its employees and the public from being exposed to unidentified materials or to identified materials which may be dangerous to health, safety, or the environment. For these reasons, the following emergency procedures emphasize rapid communications with the Department of Natural Resources (DNR) and other emergency service agencies.

B. Definition Of Hazardous Substance Release Emergency

A release of a hazardous or suspected hazardous material or waste non-owned by the department that requires initiation of the Emergency Communications Procedures (Section C) is one or more of the following incidents:

1. Spill of an unidentified material on highway right of way (ROW);
2. Spill of an identified hazardous material or waste on ROW;
3. Abandoned containers of unidentified materials on ROW.
4. Abandoned containers of identified hazardous material or waste on ROW.

C. Emergency Communications Procedures

During normal working hours, the first department employee to discover a hazardous material release shall immediately radio or call the information to the district office. If a hazardous material release results in injuries and/or a traffic control problem, the district office should first contact the local authorities (highway patrol, sheriff's department, fire department, local police, etc.), then contact the Hazardous Material Coordinator (HMC) in the district. If injuries and a traffic control problem do not exist, the district office will contact the HMC.

During non-working hours, any department employee discovering a hazardous material release that results in injuries and/or a traffic control problem, should first contact the local authorities (highway patrol, sheriff's department, fire department, local police, etc.), then contact the HMC. If injuries and/or a traffic control problem do not exist, they should contact the HMC first.

A HMC backup list developed by the district will be available when the HMC is not available.

When the HMC has been informed, the following steps are to be followed:

1. HMC will call the DNR 24 hour hotline number (573) 634-2436.
2. DNR will inform the appropriate Local Emergency Planning Committee, and will advise the HMC of clean-up instructions, if any.
3. DNR will inform the Highway Patrol, police, sheriff's department, and fire department when necessary except in accidents that incur injuries or traffic control problems. With these types of accidents, these contacts should already be done as previously mentioned.
4. HMC will inform the field personnel of any necessary actions.
5. HMC will call the Environmental Compliance Coordinators.
Kevin Wideman (573) 526-4171
John Jurgensmeyer (573) 526-4453
6. HMC will call the Office of Risk and Benefits Management and the Office of Risk and Benefits Management will inform the Chief Counsel's Office and the proper division.

Without risking exposure to the substance, the discoverer shall secure the sight to keep unnecessary people away and provide all available information about the release to the HMC for relay to DNR and the Office of Risk and Benefits Management. Other previously mentioned agencies will be informed by DNR unless already informed in accidents that have injuries or traffic control problems. This information, as a minimum, should include the following:

1. The location.
2. Estimated quantity of spill.
3. Type of materials.
4. Phone number or radio call number where the discoverer can be contacted.
5. Written notes of activity, time of occurrences, and name of those involved.

The discoverer shall remain at the site at a safe distance on a standby basis to provide communications until relieved by the HMC or his/her designee. The discoverer and/or the HMC shall be prepared to respond to requests from DNR, local authorities, etc., for additional information.

If or when a NEWS PERSON contacts the discoverer, be factual in your statements and any answers you provide. "I don't know" is not a demeaning answer and should be used when it is an accurate statement or answer. Suspicion or guessing on the discoverer's part could lead to unnecessary hysteria.

D. Emergency Procedures For Spills And Releases

To ensure worker safety in the event of a spill or other unplanned release of a hazardous material or waste, the following steps are to be taken by department employees:

1. Do not walk into, touch or inhale the spilled material. Stay upwind and upgrade of any spilled material, fumes and dusts.
2. Eliminate all ignition sources (flares, operating engines, smoking, electrical sparks).
3. Stay clear of the ends of any tanks or probable points of rupture.
4. Do not assume that gases or vapors are harmless because of lack of odor.
5. Avoid confined spaces near the spill or release.
6. Secure the area.

E. Response To Release Emergencies On ROW Resulting From Non-department Operations

The department is not in the business of containing and cleaning up hazardous substances releases caused by private carriers on highway right of way. Any MoDOT employee that discovers a release on the right of way shall follow this procedure:

1. Immediately initiate the Emergency Communications Procedure (Section C).
2. Stand by the field communications equipment, if available, to give information to the HMC, DNR, and local authorities until relieved by DNR or the HMC.
3. After the release incident scene is cleared of traffic and bystanders, other MoDOT employees may attempt to block the flow of a hazardous substance or unknown substance down the drainage way when informed by DNR. If our people can positively identify the hazardous material and blocking a drainage way can be done without jeopardy to any people, the drainage way can be blocked. For odorless and colorless volatile materials, it is impossible to determine the extent of dangerous contamination in the field without appropriate equipment and skills.

MoDOT employee's shall not participate in the clean-up and handling of hazardous materials and wastes owned by a private party unless directed to do so by the HMC.

F. Responsibilities For Keeping A Log Of Hazardous Spills Incidents

The HMC is responsible for keeping a log of hazardous spills incidents and reporting those incidents to the central office on a quarterly basis.

Procedures to Follow When Discovering Non-Department Hazardous Materials

First, the discoverer will need to obtain the following information:

1. Are there injuries or a traffic control problem?
2. The location.
3. Estimated quantity of spill.
4. Type of hazardous material.
5. Phone number of radio call number where the discoverer can be contacted.



RMHAZCH.doc

Attached is the reporting procedure flowchart.

***Duties of the HMC:**

1. HMC will call the DNR 24-hour hotline number 573-634-2436.
2. DNR will inform the appropriate Local Emergency Planning Committee, and will advise the HMC of clean up instructions, if any.
3. DNR will inform the local authorities when necessary, except in accidents with injuries or traffic control problems with these types of accidents, these contacts should be previously done.
4. HMC will inform field personnel of any necessary actions.
5. HMC will call the Environmental Compliance Coordinators.

Kevin Wideman (573) 526-4171

John Jurgensmeyer (573) 526-4453

For additional information, contact the district Hazardous Material Coordinator (HMC).

District Offices

District 1 - St. Joseph	(816) 387-2350
District 2 - Macon	(816) 385-3176
District 3 - Hannibal	(573) 248-2490
District 4 - Kansas City	(816) 889-3350
District 5 - Jefferson City	(573) 751-3322
District 6 - Chesterfield	(314) 340-4100
District 7 - Joplin	(417) 629-3302
District 8 - Springfield	(417) 895-7600
District 9 - Willow Springs	(417) 469-3134
Central Office	(573) 751-3313
Troop A	(816) 524-1407
Troop B	(816) 385-2132
Troop C	(314) 340-4000
Troop D	(417) 895-6868
Troop E	(573) 840-9500
Troop F	(573) 751-1000
Troop G	(417) 469-3121
Troop H	(816) 387-2345
District 10 - Sikeston	(573) 472-5333
Central Office	1-888-275-6636

Chapter : 1 Safety Policies

Section: 108 Hazard Communication

Sub- Section:

Policy/Procedure #:

Effective Date:01/01/2013

Supersedes: 6-01-09

Dated:

I. PURPOSE

MoDOT includes some operations that use chemical substances that can be harmful, unless precautions are taken. This written Hazard Communication Plan is intended to serve as a guideline for all Districts and Central Office in developing an adequate means of informing and protecting employees. Its goal is to ensure protection of all employees involved in the handling and use of hazardous chemicals.

The effectiveness of this program depends upon the sincere support and cooperation of all those involved.

II. POLICY STATEMENT

All MoDOT employees exposed to hazardous chemicals shall be trained as outlined in this Hazard Communication Plan. It shall be the policy of MoDOT to maintain awareness of all hazardous chemicals encountered by its employees and to communicate any associated hazards along with the necessary safety precautions.

III. PRINCIPAL REQUIREMENTS OF THE HAZARD COMMUNICATION STANDARD (HCS)

- A. MoDOT will make available, via intranet, the Written Hazard Communication Plan.
- B. All MoDOT departments must prepare an inventory list, alphabetized by common name, identifying all hazardous chemicals and products in the workplace. This list must be submitted to the District Office. District Offices will maintain and manage the chemical inventory list database. (MSDS On-Line contains an e-binder of ALL MoDOT MSDS/SDS that can be sorted alphabetically.)
- C. Ensure that each container of hazardous chemicals in the workplace is properly labeled in consistency with the requirements of this program.
- D. Maintain copies of Safety Data Sheets (SDSs) for each hazardous chemical in the workplace, and ensure that the SDSs are readily accessible to employees. MSDS On-Line maintains a list of all chemicals used in the workplace,

provided the names of all chemicals are reported to their respective on-line administrators. It is the responsibility of those who receive chemicals to notify the local administrator so that the SDS can be added.

E. Provide employees with effective information and training regarding hazardous chemicals in their work areas at the time of their initial assignment, and whenever a new chemical hazard is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

F. Employees must also receive information and/or training regarding Non-Routine Tasks and Chemicals Contained in Pipes from their supervisor.

G. MoDOT will make available to non-MoDOT personnel, information regarding the Hazard Communication Program. This includes safety data sheets, precautionary measures, and the labeling system.

IV. CONTAINER LABELING

A. General

No employee shall use, store, or allow any other person to use or store a hazardous substance if the container does not meet the labeling requirements outlined by the MoDOT Hazard Communication Policy.

B. Labels on Shipped Containers

The chemical manufacturer, importer, or distributor shall ensure that each container of hazardous chemicals leaving their workplace is labeled, tagged or marked. Hazards not otherwise classified do not have to be addressed on the container. Where the chemical manufacturer or importer is required to label, tag or mark the following information shall be provided:

- (i) Product identifier;
- (ii) Signal word;
- (iii) Hazard statement(s);
- (iv) Pictogram(s);
- (v) Precautionary statement(s); and,
- (vi) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

The supervisor or designee, is to ensure the information is to be prominently displayed, legible and in English.

Once received, it is the responsibility of the supervisor, or designee, in each building, to ensure that each container arriving at the building is either, labeled, tagged or marked legibly as described above (i-v); or with the, product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

C. Stationary Process Containers

Signs, placards, or other such written materials can be used in lieu of affixing labels to individual stationary process containers, as long as it identifies the container and conveys the information required to be on a label.

D. Immediate Use

Labels are not required on portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer.

Laboratory chemicals dispensed from a properly labeled incoming container need to be identified by name only when dispensing for use in the laboratory.

E. Removing Labels






Labels on hazardous chemical containers shall not be removed or defaced, unless the container is immediately marked with the required information.

F. Updating of Labels:

If MoDOT is notified of significant hazard characteristic changes on an updated MSDS, the supervisor, or designee, responsible for container labeling, shall see that any outdated hazard warnings on labels are corrected and the updated information conveyed.

G. Pictograms

The Hazard Communication Standard (HCS) has also adopted the Global Harmonized System's (GHS) use of pictograms. Now, only one set of pictograms exist, each meaning the same thing. This was done in order to help employees interpret and understand the chemicals for which they are exposed.

HCS Pictograms and Hazards		
Health Hazard  <ul style="list-style-type: none"> ▪Carcinogen ▪Mutagenicity ▪Reproductive Toxicity ▪Respiratory Sensitizer ▪Target Organ Toxicity ▪Aspiration Toxicity 	Flame  <ul style="list-style-type: none"> ▪Flammables ▪Pyrophorics ▪Self-Heating ▪Emits Flammable Gas ▪Self-Reactives ▪Organic Peroxides 	Exclamation Mark  <ul style="list-style-type: none"> ▪Irritant (skin and eye) ▪Skin Sensitizer ▪Acute Toxicity ▪Narcotic Effects ▪Respiratory Tract Irritant ▪Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  <ul style="list-style-type: none"> ▪Gases Under Pressure 	Corrosion  <ul style="list-style-type: none"> ▪Skin Corrosion/Burns ▪Eye Damage ▪Corrosive to Metals 	Exploding Bomb  <ul style="list-style-type: none"> ▪Explosives ▪Self-Reactives ▪Organic Peroxides
Flame Over Circle  <ul style="list-style-type: none"> ▪Oxidizers 	Environment (Non-Mandatory)  <ul style="list-style-type: none"> ▪Aquatic Toxicity 	Skull and Crossbones  <ul style="list-style-type: none"> ▪Acute Toxicity (fatal or toxic)

V. SAFETY DATA SHEETS (SDS)

A. SDS Structure

The chemical manufacturer or importer preparing the safety data sheet shall ensure that it is in English (although the employer may maintain copies in other languages as well), and includes at least the following section numbers and headings, and associated information under each heading, in the order:

Section 1, Identification;

Section 2, Hazard(s) identification;

Section 3, Composition/information on ingredients;

Section 4, First-aid measures;
Section 5, Fire-fighting measures;
Section 6, Accidental release measures;
Section 7, Handling and storage;
Section 8, Exposure controls/personal protection;
Section 9, Physical and chemical properties;
Section 10, Stability and reactivity;
Section 11, Toxicological information.
Section 12, Ecological information;
Section 13, Disposal considerations;
Section 14, Transport information;
Section 15, Regulatory information; and
Section 16, Other information, including date of preparation or last revision.

B. Obtaining SDSs:

A Safety Data Sheet is required for each hazardous chemical on the building inventory. Chemical manufacturers, importers and distributors are required to provide a SDS for each hazardous chemical provided to a customer. The storeroom will provide SDSs for all hazardous chemicals that they provide. For other products received directly from manufacturers or distributors, they will provide SDSs. The supervisor or their designee is responsible for making sure we get the SDS.

B. Maintaining SDSs:

SDSs, a copy of the written Hazard Communication Plan, and a list of hazardous chemicals in the workplace are to be maintained in a computer, file, folder or notebook at each primary workplace, at a location convenient and readily accessible to all employees during all work hours.

C. Updating SDSs:

Supervisors or their designees shall review incoming SDS, and copies of updated SDSs shall be forwarded to affected buildings and to the MSDS On-Line Administrator. If the SDS is the same as the one currently on file, the SDS may be discarded. If the SDS has been reviewed, the new SDS must be placed in the file and the old SDS/MSDS removed. The date of removal shall be written on the old SDS/MSDS and it shall be placed in a file labeled Old Material Safety Data Sheets or Safety Data Sheets.

VI. Employee information and training.

A. Employees shall receive effective information and training on hazardous chemicals in their work area either at the time of their initial assignment, or whenever a new chemical hazard or process that introduces a new chemical hazard the employees have not previously been trained about, is introduced into their work area.

B. New employees are to receive the training as soon as possible and before assigned to work with hazardous chemicals.

C. A video shall be used to assist with the training.

D. Initial Training shall include:

- i. MoDOT's Hazard Communication Policy and its requirements,
- ii. The details of the hazard communication program developed by the employer, including:
 - (1) an explanation of the labels received on shipped containers,
 - (2) the workplace labeling system used by their employer and,
 - (3) the safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information.
- iii. The physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards in the workplace.

E. Supervisors must train the employees regarding:

- i. Any operations in their work area where specific hazardous chemicals used by the facility are present,
- ii. The location and availability at their facility of:
 - (1) the written hazard communication program,
 - (2) the required lists of hazardous chemicals, and
 - (3) safety data sheets.
- iii. Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area,
- iv. The measures employees can take to protect themselves from these specific chemical hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

F. Initial Training listed in section D, i – iii, shall be covered and documented within the New Employee Orientation.

G. Follow-up shall be conducted by supervisors to ensure that affected employees:

- i. remain aware of the Hazard Communication Standard and its requirements,
- ii. can show where the Material Safety Data Sheets are located,
- iii. are generally familiar with the hazardous properties of the chemicals in their work area and the protective measures being implemented.

VII. NON-ROUTINE TASKS

A. Circumstances may require employees to perform tasks that involve potential exposure to hazardous chemicals that are not in the course of the regular job. Prior to these tasks, employees must be notified regarding:

- i. The nature of any hazardous chemicals present. The MSDS/SDS for those chemicals should be reviewed in detail and all recommendations followed in preparing for the task.
- ii. Precautionary measures and personal protective equipment needed for the task.
- iii. Any hazards associated with chemicals present in unlabeled pipes.

VIII. NON-DEPARTMENTAL PERSONNEL (Contractors, etc.)

A. Mutual conveyance of chemical hazard information is necessary between MoDOT and outside contractors and service personnel. MoDOT must be informed of all hazardous substances to be brought into the workplace by contractors and/or service personnel. In addition, contractors and/or service personnel must be informed of all hazardous substances they may encounter during their activities at a MoDOT workplace.

B. It is the responsibility of MoDOT to inform its employees and provide any necessary training to deal with chemical hazards brought into the workplace. Likewise, it is the responsibility of MoDOT to provide contractors and/or service personnel adequate information on chemical hazards within the workplace, so that contractors may inform and provide their employees with any necessary training.

In dealing with contractors, the following information shall be exchanged:

- i. A list of hazardous chemicals, including the labeling system, which they may be exposed to while on the job site.
- ii. Precautions that employees may take to lessen the possibility of exposure.

- iii. The location of Safety Data Sheets (which must be immediately available).

IX. Definitions

"Article" means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

"Chemical" means any substance, or mixture of substances.

"Chemical manufacturer" means an employer with a workplace where chemical(s) are produced for use or distribution.

"Chemical name" means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

"Classification" means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

"Common name" means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

"Container" means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

"Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

"Distributor" means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

"Employee" means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.

"Exposure or exposed" means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

"Foreseeable emergency" means any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

"Hazard category" means the division of criteria within each hazard class, e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.

"Hazard class" means the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

"Hazard not otherwise classified (HNOC)" means an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in this section, but the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

"Hazard statement" means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

"Hazardous chemical" means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

"HAZCOM" – Hazardous communication, a document required by OSHA that contains a company's policies and procedures and procedures for handling and disposing of hazardous materials.

"Health hazard" means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A to §1910.1200 -- Health Hazard Criteria.

"Immediate use" means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

"Importer" means the first business with employees within the Customs Territory of the United States which receives hazardous chemicals produced in other countries for the purpose of supplying them to distributors or employers within the United States.

"Label" means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

"Label elements" means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

"Material Safety Data Sheets" – MSDS are chemical information sheets drawn up in conformity with hazardous chemical standards, prior to the Globally Harmonized System adopted in 2012.

"Mixture" means a combination or a solution composed of two or more substances in which they do not react.

"Personal Protective Equipment" (PPE) – Refers to protective clothing, helmets, goggles, or other garment designed to protect the wearer's body or clothing from injury by electrical hazards, heat, chemicals and infection, for job-related occupational safety and health purposes.

"Physical hazard" means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. See Appendix B to §1910.1200 -- Physical Hazard Criteria.

"Pictogram" means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

"Precautionary statement" means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

"Product identifier" means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

"Pyrophoric gas" means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

"Safety data sheet (SDS)" means written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g) of this section.

"Signal word" means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.

"Simple asphyxiant" means a substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

"Specific chemical identity" means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

"Substance" means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

"Use" means to package, handle, react, emit, extract, generate as a byproduct, or transfer.

"Work area" means a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

"Workplace" means an establishment, job site, or project, at one geographical location containing one or more work areas.

Chapter : 1 Safety Policies

Section: 100 Head and Eye/Face Protection Policy

Sub- Section:

Policy/Procedure #:

Effective Date:01/23/2013

Supersedes: 07/01/2012

Dated:

**SAFETY
BEGINS
WITH YOU**

Head and Eye/Face Protection Policy and FAQs

Policy Statement:

All MoDOT employees shall wear appropriate head and eye/face protection when engaged in work activities occurring on or near the right-of-way and MoDOT grounds and facilities with the following exceptions:



- *Common areas such as hallways, office areas, meeting rooms, break rooms and restrooms where risks from overhead hazards are minimal*
- *General /public parking areas or fuel pumps where risks from overhead hazards are minimal*
- *While conducting ceremonies including ribbon cuttings, ground breakings and road /bridge openings where risks have been minimized in a controlled environment*
- *While operating or riding in enclosed cab equipment and vehicles*
- *In the vehicle bays of facilities/buildings where the area is marked as a safe zone or area, or the area has been cleared of equipment and overhead hazards minimized to create an area for employee meetings*





Hearing Protection [29CFR 1910.95 (a) (b) (c)] shall be worn when operating or working around equipment or tools with noise levels of 85 decibels or greater, such as chain saws, gas operated weed eaters, mowers, motor graders, compressors, concrete saw, jackhammers, sandblasters and pile drivers.

Rule of Thumb: While standing three feet apart, if you have to raise your voice to be heard over equipment noise, it is probable that the noise level is above 85 decibels. Hearing protection should be worn in accordance with the manufacturer's directions.

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	High-Visibility Safety Apparel & Headwear	
	<u>Effective</u>	January 1, 2015	
	<u>Supersedes</u>	April 1, 2011	

POLICY STATEMENT

All workers within the right-of-way, or performing work in the vicinity of vehicular traffic, shall wear high-visibility safety apparel that meets the current ANSI 107 standard.

DEFINITIONS

1. Nighttime Hours - One-half hour before sunset to one-half hour after sunrise.
2. High Visibility Hard Hat – A hard hat of fluorescent orange-red or fluorescent yellow-green color, or an approved high visibility/reflective cover.
3. Reflective Hard Hat – A high visibility hard hat with a minimum of 10 square inches of approved reflective material (visible from all sides), or an approved high visibility/reflective cover.

POLICY REQUIREMENTS

1. Daytime Flagger - During daytime activities, flaggers shall wear a high visibility hard hat along with a Performance Class 3 top OR a Performance Class 2 top.
2. Daytime Worker - During daytime activities, workers shall wear a hard hat along with a Performance Class 3 top OR a Performance Class 2 top.
3. Nighttime Flagger - During nighttime activities, flaggers shall wear a reflective high visibility hard hat along with a Performance Class 3 top AND Class E bottoms, OR Performance Class 2 top AND Class E bottoms.
4. Nighttime Worker - During nighttime activities, workers shall wear a hard hat along with a Performance Class 3 top OR Performance Class 2 top AND Class E bottoms.

PROCEDURES

1. MoDOT provided Performance Class 2, Class 3 and Class E safety apparel shall be selected by designated representatives from Risk and Benefits Management.
2. Any substitutions are at the discretion of, and shall be approved by, the District Safety and Health Manager and/or Central Office Risk and Benefits Management.

3. High visibility safety apparel items that are not provided under state contract (i.e. sweatshirts, jackets, coats, etc.) intended to be used for MoDOT purposes may be purchased at the employee's expense under the following conditions:
 - a. The District Safety and Health Manager or Central Office Risk and Benefits Management have approved the apparel for MoDOT use.
 - b. The item purchased meets or exceeds MoDOT's current specifications.
 - c. The apparel has a permanently attached tag on the garment stating that the garment meets or exceeds the current ANSI 107 Standard for Performance Class 2, Class 3, or Class E Safety Apparel.
4. High visibility safety apparel, including employee purchased, shall be subject to being removed from service once it has been deemed to be no longer effective as determined by the employee's supervisor, District Safety and Health Manager, and/or Central Office Risk and Benefits Management.
5. Employees shall not alter safety apparel (i.e., removing the sleeves), MoDOT provided or otherwise.
6. Safety apparel shall be worn as per the manufacturer's design. Safety apparel with zipper and/or hook and loop (Velcro) closures should be fastened to meet the visibility requirements of the ANSI 107 Standard.

TRAINING

1. Gear Up – Work Zone, Flagger Training (LMS code 24487) to be completed within the first week of hire.
2. Gear Up - Basic Safety Training (LMS code 24492) to be completed within the first week of hire.
3. Advanced Work Zone Training (LMS code 24509)

CROSS REFERENCES

1. ANSI 107–2010 "American National Standard for High-Visibility Safety Apparel and Headwear"
2. EPG 616.4.3 Worker Safety Considerations
3. EPG 616.5.2 High-Visibility Safety Apparel
4. EPG 616.18 Construction Inspection Guidelines
5. EPG 616.20 Flagger Training
6. Safety Apparel Posters
7. Head and Eye/ Face Protection Policy

POLICY AUTHORITY

1. MUTCD 2009 Edition

Risk and Benefits Management On-line Manual



Type: Safety/Health

Chapter : 2 Safety Procedures

Section: 211 Histoplasmosis Guidelines

Sub- Section:

Policy/Procedure #:

Effective Date:03/11/2011

Supersedes:

Dated:

MoDOT Histoplasmosis Guidelines

This document contains guidelines and procedures for minimizing employee exposure to Histoplasmosis. Histoplasmosis exposure can occur in MoDOT job activities that involve the disturbance of dirt containing the Histoplasma capsulatum spore.

Health Hazards

Histoplasmosis primarily affects a person's lungs, and its symptoms vary greatly. The vast majority of infected people are asymptomatic (have no apparent ill effects) or they experience symptoms so mild they do not seek medical attention. If symptoms do occur, they will usually start within 3 to 17 days after exposure, with an average of 10 days. Histoplasmosis can appear as a mild, flu-like respiratory illness and has a combination of symptoms, including a general ill feeling, fever, chest pain, chills, and hoarseness. A chest x-ray of a person with acute pulmonary histoplasmosis will commonly show a patchy pneumonitis, which eventually calcifies. Chronic lung disease due to histoplasmosis resembles tuberculosis and can worsen over months or years. The most severe and rare form of this disease is disseminated histoplasmosis, which involves spreading of the fungus to other organs outside the lungs.

Monitoring Requirements

There are ways to test locations for Histoplasma capsulatum. However, this kind of testing is costly and unreliable at determining the accurate levels. It is going to be assumed that all locations such as bridges are contaminated.

Compliance

To ensure that no employees are exposed to Histoplasma capsulatum spores, engineering controls (wet removal, vacuum system, etc.), administrative controls (respiratory policy, etc.) and work practice controls must be implemented.

Respiratory Protection

The half face piece respirator with a 3M model 2097 P-100 filter in conjunction with dust suppression techniques will be adequate in protecting the employee from exposure to the Histoplasma capsulatum spore. Refer to MoDOT's Respiratory Protection Program for additional details on the basic requirements for selection, use, cleaning and maintenance of respirators.

Protective Clothing

Appropriate protective clothing and equipment shall be provided to employees when regular work clothing and shoes might become contaminated with dust containing histoplasma capsulatum spores. Protective clothing and equipment are necessary to protect employees from transporting spores from work to home. Appropriate protective clothing and equipment can include:

- **Tyvek suits:** MoDOT will provide disposable full-body Tyvek suits. A sufficient quantity shall be provided for all workers in the work area. Supervisors shall ensure workers wear the protective clothing provided. Tyvek suits shall be disposed of before leaving the job site.
- **Gloves:** Nitrile gloves shall be provided when working in areas that have the potential to contain Histoplasma capsulatum spore. Gloves shall be either disposed of or cleaned and stored for future use before leaving the job site.
- **Hardhats:** Head protection (hardhats) shall be utilized. Hardhats shall remain in the work area until the project is completed. Hardhats shall be thoroughly cleaned and stored before being removed from the job site at the end of the day.
- **Boots:** Workers shall wear work boots with nonskid soles and appropriate toe protection. Boot covers shall be utilized when in the work area. Boot covers shall be disposed of before leaving the job site.
- **Face Shield:** A face shield shall be worn while in the work area. Face shields shall be cleaned and stored before leaving the job site.
- **Safety Vest:** Safety vest shall be worn by all employees when on or near MoDOT right-of-way. Safety vest shall be cleaned and stored appropriately before leaving the job site.
- **Fall Protection Harness:** Safety harnesses shall be provided when working from heights greater than 6 feet. Harnesses shall be cleaned and stored appropriately before leaving the job site.

Protective clothing is required to be removed within the work area. Potentially contaminated clothing shall not be worn in the cab of vehicles.

Work/Decontamination Procedures

The following procedures shall be observed prior to beginning work:

- Shall change into work clothing and shoes before entering the work area.
- Utilize work garments and appropriate protective gear, including respirators, before entering the work area.
- Appropriately store any clothing not worn under protective clothing.

Employees shall follow these procedures during and upon leaving the work area:

- HEPA vacuum contaminated safety equipment as required.

- Remove the protective equipment in the work area.
- Remove disposable shoe covers and dispose.

Employees should follow these procedures upon finishing work for the day (in addition to procedures described above):

- Do not get in work vehicles with contaminated protective gear/clothing.
- Remove gloves and place in appropriate containers.
- Remove respirators last.
- Clean respirator.
- Wash hands and face.

Housekeeping

When vehicles and other vehicles are parked downwind of the work area make sure all windows and doors are shut.



Histoplasmosis Emphasis.pdf

Slide 1

Hydraulic Safety Awareness Training

Hydraulic systems present a wide variety of unique safety hazards. An awareness of these safety hazards can only be garnered through training that focuses on all aspects of hydraulic safety.

Slide 2

Hydraulics is a means of transmitting power by the use of confined fluids. Without safety based knowledge of hydraulics, the nature of volume under pressure can be potentially dangerous.



Hydraulics is part of the fluid power family that deal with the mechanical properties of fluids used to multiply force and modify motion. The use of hydraulics range throughout all industries and can be seen in construction, manufacturing, mining, marine, agriculture, forestry, and aviation. Here at MoDOT, all our maintenance personnel are subject to fluids under pressure.

Without safety based knowledge of hydraulics, the nature of volume under pressure can be potentially dangerous.

Training and Awareness

Each of the examples used today can occur here at MoDOT and could happen to you.

The first step in prevention is education

Over 98% of America's maintenance workforce is not properly trained in basic hydraulics let alone system and component diagnostics.

If you are not trained in hydraulics DO NOT work on hydraulic systems – you could get severely injured or killed.

Hydraulic systems store fluid under high pressure- typically, at 2,000 pounds per square inch...

Common Hazards Could Include:

- Stored energy
- Ignition and Burns
- Injection

Safety has been acknowledged by industry as crucial however hydraulic safety has not been recognized. Most hydraulic related deaths and injuries occur due to lack of hydraulic safety knowledge.

Slide 5

The following are some MoDOT equipment and the amount of pressure measured in pounds per square inch (psi) the hydraulic fluid operates when the equipment is in operation.

Equipment	psi
Dump Truck.....	2,500
Motor Grader.....	2,200
Backhoe.....	3,500
Skid Steer.....	3,500
Signal Boom.....	2,500
Chip Spreader.....	2,500
Sign Truck Auger.....	2,500
Front End Loader.....	4,000
Paint Striping Truck (Air).....	150

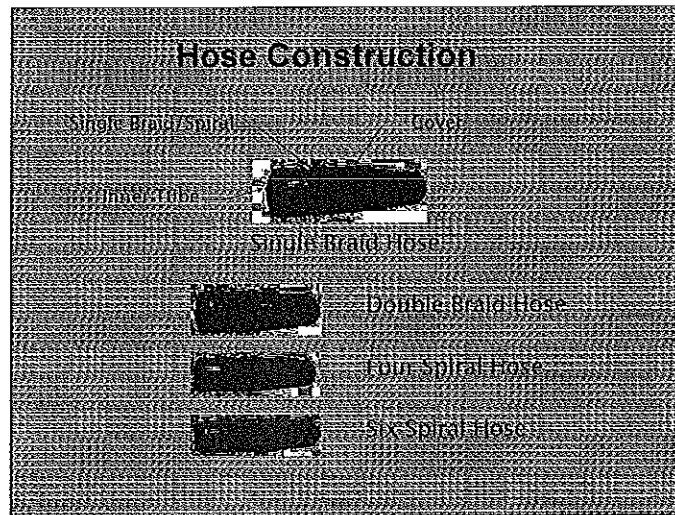
When equipment and devices utilize the power of liquid fluids to operate machinery, care must be taken to ensure everyone follow specific hydraulics procedures. Hydraulic systems are used in all items above to include tractors, mowers, bucket trucks (manlifts) and mobile cranes (boom trucks) just to name a few others.

Stored Energy

- Flailing hydraulic hose
- Air or fluids being ejected
- Maintenance conducted without releasing pressure
- Maintenance conducted after incorrectly releasing pressure



Less than 1% of all hydraulic systems comply with OSHA's standard for lockout with respect to de-energization and verification. So what do people do when they need to work on a hydraulic system? They "crack" connectors and release stored energy directly to the atmosphere at the risk of severe, debilitating injury or death - it is a common, accepted practice that must be stopped now!

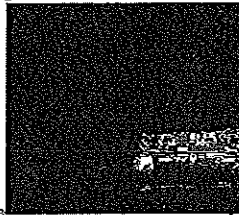


Modern hydraulic hose typically consists of at least three parts: an inner tube that carries the fluid, a reinforcement layer, and a protective outer layer.

The inner tube must have some flexibility and needs to be compatible with the type of fluid it will carry. Commonly used compounds include synthetic rubber, thermoplastics, and PTFE, sometimes called Teflon. The reinforcement layer consists of one or more sheaths of braided wire, spiral-wound wire, or textile yarn. The outer layer is often weather-, oil-, or abrasion-resistant, depending upon the type of environment the hose is designed for.

Most Common Hose Failures

- Abrasion – Rubbing
- Flexing the hose to less than minimum bend radius
- Pressure spikes
- Intermixing hose and hose ends




Not surprisingly, hydraulic hoses have a finite life. Proper sizing and use of the correct type of hose will certainly extend the life of a hose assembly, but there are many different factors that affect a hose's lifespan. SAE identifies some of the worst offenses as:

- Flexing the hose to less than the specified minimum bend radius
- Twisting, pulling, kinking, crushing, or abrading the hose
- Operating the hydraulic system above maximum or below minimum temperature
- Exposing the hose to rapid or transient rises (surges) in pressure above the maximum operating pressure, and
- Intermixing hose, fittings, or assembly equipment not recommended as compatible by the manufacturer or not following the manufacturer's instructions for fabricating hose assemblies.

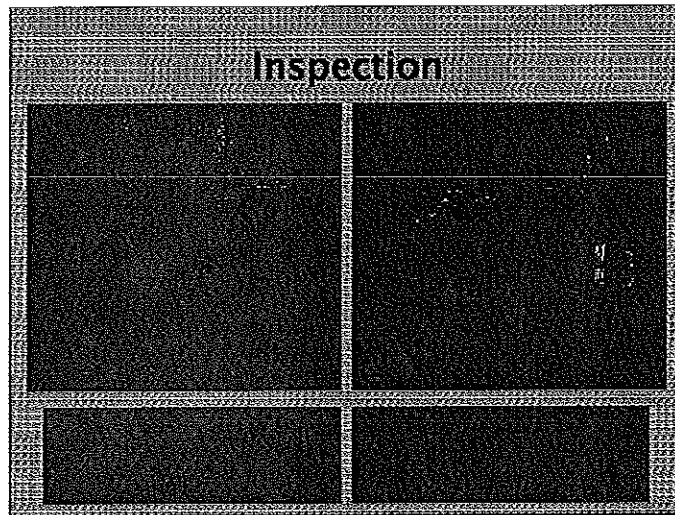
Inspection

- ✓ Take pressure off hydraulics. Example: Lower the loader bucket to the ground.
- ✓ Make sure pressure is at zero energy state (no psi).
- ✓ Inspect all hydraulic lines, hoses and couplings visually. The couplings connect hoses together and sometimes leak. Any wetness, puddles or dripping indicates a hydraulic leak.

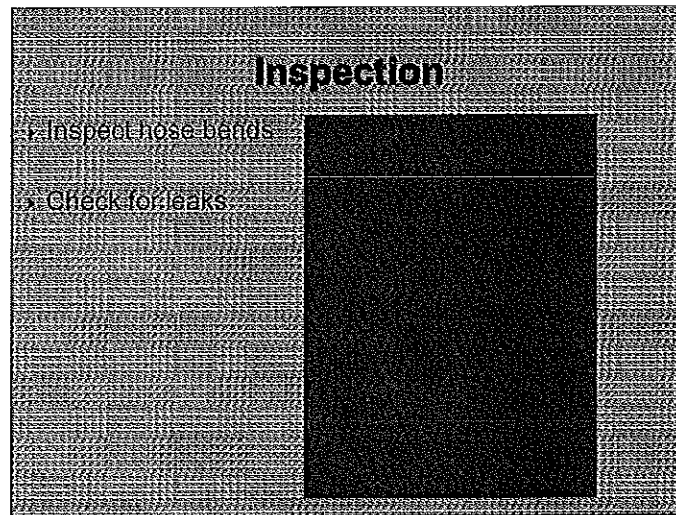
A black and white illustration of a person wearing a hard hat and safety glasses, inspecting a hydraulic hose. The person is holding the hose with both hands, looking closely at a coupling. The background is a simple line drawing of a tree.

Even with proper selection and installation, hose life may be significantly reduced if a continuous maintenance program is not in place. The frequency of inspection and replacement of assembly components should be determined by the system's operating environment, the potential risk from a hose failure and any past experience of hose failures in the application or in similar applications.

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The hose assembly should be routed in such a manner so that if a failure does occur, the escaping fluid will not cause personal injury or property damage.



Visual Inspection:

Any of the following conditions require immediate shut down and replacement of the hose assembly:

- Fitting slippage on hose
- Damaged, cracked or charred hose
- Cracked damage or badly corroded fittings
- Leaks at fitting or in hose
- Kinked, crushed, flattened or twisted hoses
- Blistered, soft, degraded or loose covers

The following items must be tightened, repaired, corrected or replaced as required:

- Leaking fittings
- Worn clamps, guards or shields
- System fluid level, fluid type and any air entrapment

Ignition and Burns

Skin will scald at 48°C (120°F)...

Two to three minutes at that temperature will result in a 2nd degree burn.

The average operating temperature of a hydraulic system of 60°C (140°F) will cause a 2nd degree burn in ½ to 1 second.

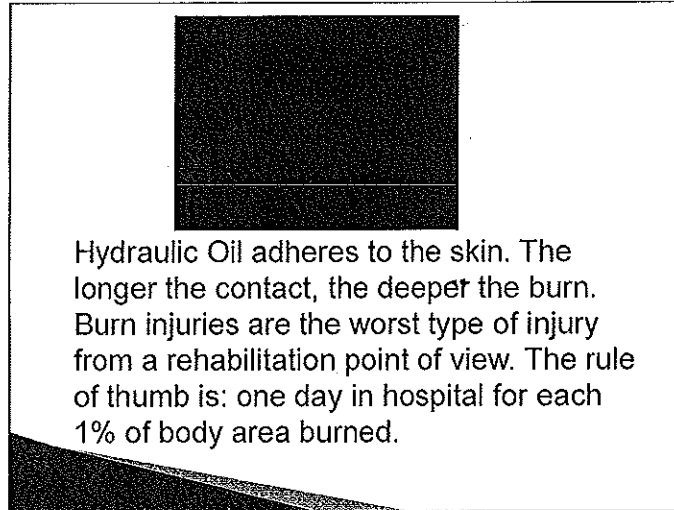
Whenever hot hydraulic oil is permitted to exhaust to atmosphere, it can come into contact with the skin. In most cases the volume is unknown, and the velocity can be extremely high, leaving the outcome unpredictable.

Hydraulic systems generally operate at temperatures ranging from 130° F to 180°F under normal operating conditions. These temperatures can easily exceed 250°F if there is excessive wear in a system.

Petroleum-based hydraulic fluids become hot during operations. A heated petroleum-based hydraulic fluid presents a considerable fire hazard, particularly in those processes where ignition sources are usually present.

A typical petroleum-based hydraulic fluid has a flash point that ranges from 300°F to 600°F, and an auto ignition temperature of 500°F to 750° F. When hydraulic fluid is purposely or accidentally discharged under high pressure an easily ignitable fine oil mist is sprayed into the surrounding area. If the mist reaches an ignition source the result can be a torch-like ball of fire, or if the mist is confined, it can result in and cause a violent explosion.

According to information received from the Intermountain Burn Center in Utah, a person's skin will scald at 120°F. It will take approximately 2 to 3 minutes to receive a 2nd degree burn at this temperature if the heat is sustained.



If the temperature is increased to 140°F, the average operating temperature of a hydraulic system, it takes 1/2 to 1 second of sustained heat for a 2nd degree burn. Oil is inclined to adhere to ones skin, consequently, the longer the contact, the deeper the burn. Burn injuries are the worst type of injury from rehabilitation and cost point of view. The rule of thumb is; one day in a hospital for each 1% of burnt body area.

The costs associated with the treatment of burn injuries are astronomical: a burn that covers 30% of total body area can cost as much as \$200,000.00 in initial hospitalization costs and physicians fees. For extensive burns, there are additional significant costs, which include costs for repeat admission for reconstruction and for rehabilitation.

Fire and Explosion Risks


- ▶ High flash point: 145-315°C (300-600°F)
A flash point is the lowest temperature at which vapors from an oil will ignite momentarily when exposed to a flame/ ignition source.
- ▶ High auto-ignition: 260-400°C (500-750°F)
The auto-ignition point is the temperature at which a flammable mixture ignites spontaneously in air.

Hydraulic oil is a type of precisely engineered hydraulic fluid with a high viscosity, low volatility and, generally speaking, a low level of toxicity.

Hydraulic oil is a non-volatile substance, but if it is heated beyond 300 degrees Fahrenheit, it can spontaneously burst into flames or cause an explosion of the oil if held under pressure. In the event of an oil fire, use a gas or foam extinguisher to smother the flames. Do not use water to put out the fire as it will cause the oil to dissipate and the fire to spread.

Fire and Explosion Risks

- ▶ Under pressure, spray droplets of hydraulic fluid may extend 32 feet from the break
- ▶ Ignited readily by a heat source
- ▶ Resulting fire is torch-like with very high heat release rate
- ▶ Mist in confined area can explode violently



Vapor pressure is a measure of how fast a liquid evaporates. The higher the vapor pressure the more rapidly the liquid will evaporate. Vapor pressure goes up and down with the temperature of the liquid. Hydraulic Systems uses oil under pressure to harness the usefulness of chemicals. When System are compromised, hazardous conditions can be magnified.

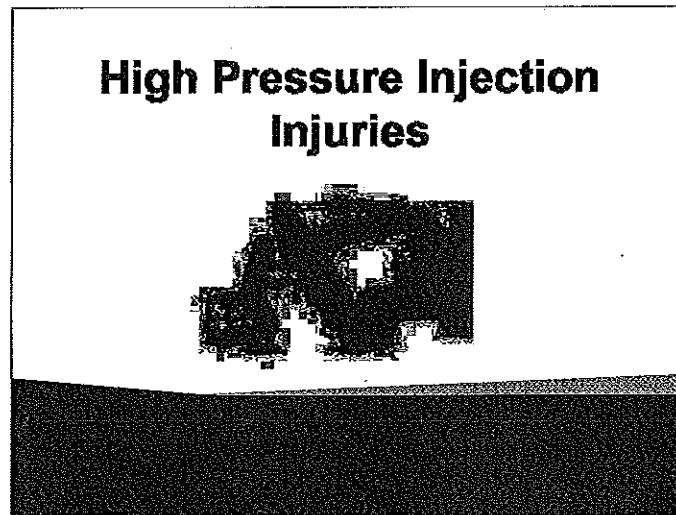
Flash point is the lowest temperature at which a liquid can form an ignitable mixture in air near the surface of the liquid.

Ignition point is the minimum temperature at which a substance will continue to burn without additional application of external heat. Also called kindling point

Never heat or weld on or near hydraulic components without proper preparation.



For every 1 degree in heat applied to trapped hydraulic oil, the pressure rises 50-to 60-pounds-per-square-inch.



While all evidence indicates that high-pressure injection injuries are few and far between, there is certainly no reason to believe that the evidence accurately reflects the situation.

According to an extensive study conducted by the FPSI, over 99% of the people who service, repair, and troubleshoot hydraulic systems have been subjected to the exact dynamics that trigger a high-pressure injection injury.

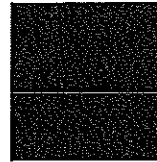
However, the “liquid bullet” either missed or deflected off its target.

In other words, if “hydraulics” was a recognized occupational hazard, and thus fell into a category for near miss reporting, the statistics on high-pressure injection injuries might differ substantially from current data.

In short, with respect to hydraulic “accidents,” if a person does not suffer a lost-time injury, that person simply did not have an accident!

What is a High Pressure Injection Injury?

- › Fluid at pressure that punctures and penetrates the skin and body tissue.
- › Injected substance passes rapidly through the skin and muscle tissue and enters the tendons and deep spaces of hand/body.



It is reported that 1 in 600 injuries treated in emergency facilities is caused by high-pressure injection. Granted, they are not all associated with hydraulic systems.

In one study of 25 patients that were injected, 8 were injected with hydraulic fluid, and 5 were injected with grease. The other commonly injected materials are paint and paint thinners.

In a separate 10-year review of high-pressure injection injuries to the hand, which studied 28 cases, 17 of the victims were injected with hydraulic fluid.

However, every person who works on and around hydraulic systems or operates a grease gun is susceptible to this type of injury. Accordingly, they should be acutely aware of the physics associated with hydraulics so they know what set of conditions must exist for this type of injury to occur.

It is important to avoid an injection injury. However, it is equally as important to know precisely what to do if one gets injected.

Most doctors agree that high-pressure injection injuries should be considered a potential surgical emergency.

The reason why a person may overlook the gravity of this type of injury is that, due to the innocuous appearance of the wound, it may hide the severity of the injury.

High Pressure Injection Injury

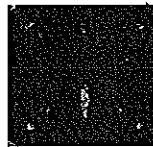
- ▶ Compressed air at 30 pounds per square inch (psi) can inject foreign objects into the body and can cause serious injury. Example: Cleaning debris from your arm with a high pressure air hose.
- ▶ Pressures as low as 5 to 10 pounds psi can be serious to fatal depending upon the debris and body part.
- ▶ If air gets into the bloodstream, it can make its way into the small blood vessels of the brain, burst the vessels and cause death.

High-pressure injection injuries occur when a high pressure injection device such as a paint gun or a grease gun injects into the worker. This commonly occurs to the nondominant hand when the worker is trying to clean the nozzle of the grease gun or cleaning debris from your arm with a high pressure air hose. The injury may appear benign. Future disability may be hidden behind a small, punctuate sore on the finger.

A high-pressure injection injury should be considered a surgical emergency. Immediate decompression and thorough cleansing of the offending material from the tissue is required to preserve optimal function.

High Pressure Injection Injury

- ▶ A pinhole leak in a hydraulic hose that's under pressure can release hydraulic fluid at a speed of 600+ feet per second.
- ▶ Compares closely to the muzzle velocity of a gun.
- ▶ Sufficient to penetrate protective equipment depending upon velocity.

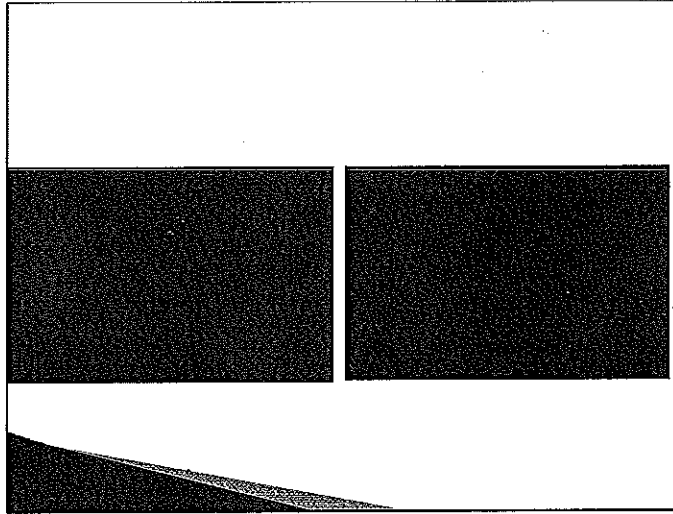


Hydraulic systems operate at very high pressures, often 2,000 psi and above. If a loose connection or a defect in a hose should occur, a fine, high-velocity stream of fluid will result. Even for systems pressurized to as little as 100 psi, this fluid stream can penetrate human skin as if it were a hypodermic needle.

Initially, an accidental fluid injection beneath the skin may only produce a slight stinging sensation. There is a danger that one will ignore this, thinking it will get better with time. Most often it does not. Within a very short time the wound may begin to throb painfully, indicating tissue damage has already begun. Fluid injected directly into a blood vessel can spread rapidly through your circulatory system. The human body has little ability to purge these types of fluids. A fluid injection injury can become very serious or even fatal if not dealt with promptly and properly.

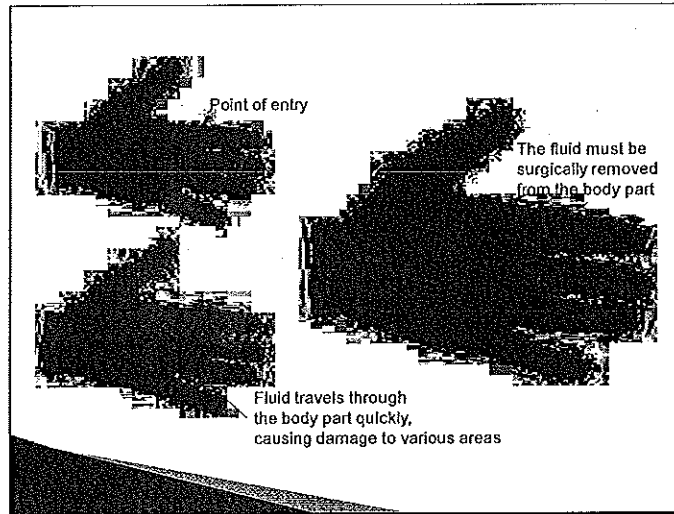
A medical doctor familiar with treatment of this type of injury must surgically remove the fluid within a few hours. The longer the delay in getting professional medical aid, the further the tissue damage can spread. If left untreated, the injury could result in disfigurement or amputation of the affected part.

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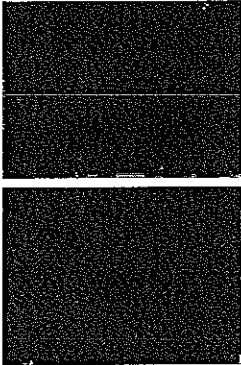


The photo above shows the point of entry of injected hydraulic fluid and the surgical method used to treat and remove said fluid.

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**Hydraulic Injection caused a pinprick
Intrusion to a hand.**



- › Hydraulic Fluid in use was a Mineral Oil
- › Pressure of fluid was **630Bar**(approx 9,150 psi)
- › Equipment in use: Jaws of Life
- › Location of Accident: Fire Service Training Ground
- › Risk Assessments were in place and Full PPE was worn.

Incidents can happen even if the worker was wearing proper safety equipment.

Critical Information

- › When an injection injury occurs, you must get at least five critical pieces of information for the doctor(s):
 1. Type of fluid.
 2. Amount of fluid injected.
 3. Pressure of fluid injected.
 4. Degree of spread and injected material.
 5. Time between injection and treatment.

An injection injury is a jobsite hazard that can result in tissue damage, amputation, or at worst, death. Planning for prevention and treatment should begin immediately. When an injury occurs, the time to prepare is gone.

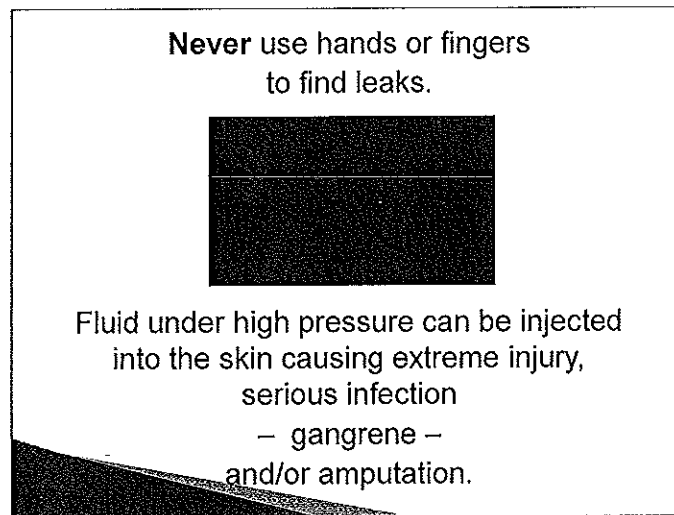
Injection injuries demand immediate treatment. Hydraulic fluid can quickly destroy tissue, leading to gangrene and the need to amputate. Simply rushing the injured person to the nearest hospital may not be adequate.

If Medical Attention is Not Received After Hydraulic Fluid is Injected into the Skin

- ▶ Within 1 to 2 hours after the injury, increased swelling is noted.
- ▶ After 4 to 6 hours, patients may complain of intense throbbing pain that is unresponsive to pain medication and only manageable by nerve blocks.
- ▶ Within the next 24 hours, as tissue loss continues, pain becomes intense within days to weeks. The skin begins to break down resulting in the spread of gangrene. Amputation is most likely required if the contaminated tissue is not surgically removed within 10 hours.

Medical professionals classify an injection injury as a surgical emergency. Because the initial presentation of the wound appears harmless, the treatment protocol is often given a mistakenly low priority. The sooner treatment is received, the less chance long-term disability will occur.

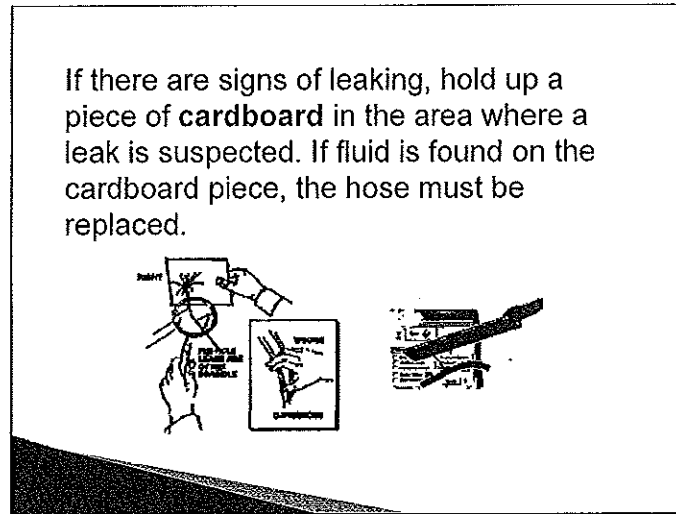
It's also important to understand that many doctors are not experienced in treating injection injuries. It can take hours to locate a qualified medical professional. Time wasted can cost the injured person his or her limb (or life), reinforcing the need for proper pre-emergency planning.



Hydraulic fluid, used to power mobile equipment, can escape from pinhole leaks in hoses caused by factors such as age, incompatible fluids, hose twist, and minimum bend radius violations. Pressurized fluids travel at bullet speed and can penetrate deep under the skin. The injured person may feel only a slight “electric shock” or pricking sensation. Rarely does the initial pain indicate the actual severity of the injury.

What looks like a simple puncture wound is, in fact, life threatening. Hydraulic fluids contain a wide range of chemical compounds that are highly toxic within the bloodstream.

Never use hands or fingers to find leaks.



Prevention is always the best treatment. Equipment operators and service technicians must follow safe practices when checking for pinhole leaks and when repairing or replacing hose assemblies. The body should never come in close proximity to fluid power components (hoses and fittings especially) when the system is pressurized.

The most common cause of an injection injury is using hands or fingers to detect leaks. Even thick leather gloves offer little protection against a highly pressurized, extremely concentrated stream of hydraulic fluid. Under normal operating conditions, a pinhole-size leak can propel the fluid at more than 600 feet-per-second. To perform a proper visual inspection, shut down the system and wait for the pressure to be relieved entirely.

When a system must remain pressurized or when hoses are routed in hard-to-see locations, use a pole of suitable length with a piece of cardboard attached to check for leaks.

Working with Hydraulic Systems

- › Never begin work on a hydraulic system unless you know what you are doing
- › Assess the Risks First
- › Use all required safety equipment such as: safety glasses/ goggles, gloves, etc.
- › Always Follow Lockout/ Tagout Procedures

Planning for and planning to prevent injection injuries is the responsibility of all employees who work with, on, or around hydraulic systems under pressure.

Never begin work on a hydraulic system unless you know what you are doing. Injection injuries can be life threatening and costly.

Maintainers who prepare for them and make a commitment to minimizing the risk of hose failure will help ensure the health of not only yourself but co-workers.

Before Servicing

- › Lower hydraulically powered attachments to the ground, or support them on metal stands or blocks.
- › Shut off the engine that powers the hydraulic pump.
- › Let the hydraulic system cool down.
- › Move the hydraulic lever back and forth a few times to release pressure, inspect gauges for zero pressure, bleed hydraulic lines, etc.
- › **Lockout/ Tagout** the unit so the hydraulic system cannot be started while someone is doing the repairs.
- › Follow manufacturer's instructions. Servicing procedures vary from one hydraulic system to another.

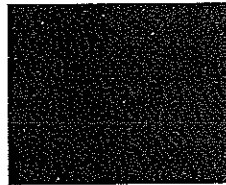
Hydraulic systems can be dangerous. Fluid can escape when adjusting or removing equipment. Fluid can be trapped in the hydraulic system even when the engine and hydraulic pump are stopped. An implement in the raised position has trapped hydraulic fluid that might be pressurized — even if it is disconnected.

Stay away from cracked hoses, leaks, and nozzles that might eject fluid under pressure and promptly seek medical attention if fluid is injected into the skin.

Hydraulics Maintenance

All hydraulic hoses, tube lines and fittings should be periodically inspected.

Any deterioration should be carefully examined to determine whether further use of the component would constitute a hazard.

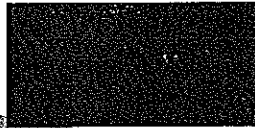


Preventive Maintenance of a hydraulic system is very basic and simple and if followed properly can eliminate most hydraulic component failures. Preventive Maintenance is a discipline and must be followed as such in order to obtain results.

All hydraulic hoses, tube lines and fittings should be periodically inspected. Any deterioration should be carefully examined to determine whether further use of the component would constitute a hazard.

Conditions such as the following should be sufficient for consideration of replacement:

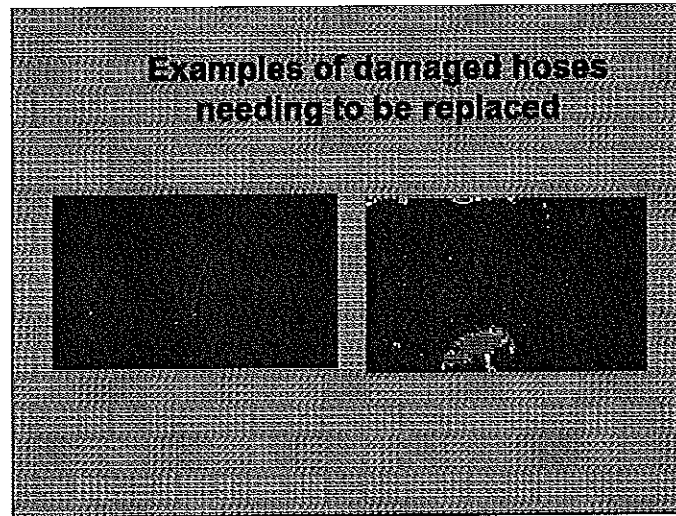
1. Any evidence of hydraulic oil leakage at the surface of a flexible hose or its junction with the metal and couplings;
2. Any blistering or abnormal deformation to the outer covering of a hydraulic hose;
3. Hydraulic oil leakage at any threaded or clamped joint that cannot be eliminated by normal tightening or recommended procedures.
4. Evidence of excessive abrasion or scrubbing on the outer surface of a hose, rigid tube or hydraulic fitting.



Hose assemblies and seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose assemblies and all seals should be inspected and replaced at specific replacement intervals based on previous service life, industry recommendations, or when failures could result in unacceptable downtime, damage or injury risk.

From time to time hose assemblies will fail if they are not replaced at appropriate time intervals. Usually these failures are the result of some form of misapplication, abuse, wear or failure to perform proper maintenance.

Conditions such as the following should be sufficient for consideration of replacement:



If hose failure occurs shut down the equipment immediately and leave until pressure has been completely released from the hose assembly. Simply shutting down the hydraulic pump may not eliminate the pressure in the hose assembly. It may take some time for the pressure to reduce to a safe level for inspection. The hose assembly and equipment then can be checked and faulty components replaced.

Here are two examples of damaged hoses needing to be replaced.

Summary

- ▶ The risks of working with hydraulic systems can include
 - High-pressure puncture accidents,
 - Fire,
 - Lacerations,
 - Severe burns,
 - Crushing,
 - Death, etc.
- ▶ These risks apply to anyone who works around equipment that use hydraulic pressure systems.

The risks of work with hydraulic systems are not only of high-pressure puncture accidents, but of fire, lacerations, severe burns, crushing and death. These risks apply to anyone whose work entails the operation of machines – whether they will be using milling machines, dump trucks, motor graders, tractors or bulldozers – that use hydraulic pressure systems.

Quiz

Q: Fluid escaping through a pin hole leak in a hydraulic system can be in excess of _____ feet per second.

A: 600

Q: When an injection injury occurs, you must get at least five critical pieces of information for the doctors:

- 1: Type of fluid**
- 2: Amount of fluid injected**
- 3: Pressure of the fluid injected**
- 4: Degree of spread of injected material**
- 5: Time between injection and treatment**

Q: How can you help ensure that all system pressure is bled/released from the system before working on the equipment?

A: **Inspect all gauges for zero pressure and review the hydraulic schematic for pressure traps such as accumulators, check valves, etc.**

Q: Should you loosen and/or tighten a hydraulic connection when the system is under pressure?

A: **No, the connection could fail and cause an oil injection injury and/or damage to property or worse.**

Q: What should you do if there are hydraulic lines and components that are exposed and routed near the operator of the equipment?

A: Protect the operator from the potential danger associated with hydraulic injuries.

Q: Should you route a hose assembly in an area where there is excessive heat?

A: No, you should always try to avoid routing an assembly in an area where the ambient (existing on all sides) heat is excessive.

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Questions or Comments?

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Thank You!

Category:823 Incarcerated Personnel Work Release Program

From Engineering Policy Guide



Introduction

The Incarcerated Personnel Work Release Program is a joint effort between the Missouri Department of Corrections (MDOC) and the Missouri Department of Transportation (MoDOT). This program allows inmates who are nearing their release time valuable job training, while also allowing MoDOT to accomplish tasks that otherwise may not be completed. However, it is not intended that incarcerated crews compete with work performed by MoDOT staff.

These articles provide policies and guidelines for a successful work release program. Policies are defined where the words "shall" or "do not" are used, where guidelines are defined by the word "should." This material reflects a statewide baseline level of expectations for supervision of incarcerated crews. Districts may have additional policies their employees are expected to follow.

Failure to follow one or more of these expectations may lead to disciplinary action up to and including termination.

Articles in "823 Incarcerated Personnel Work Release Program"

The following 7 pages are in this category, out of 7 total.

Incarcerated Personnel Work Release Program Manual (pdf, version)
([http://sharepoint/systemdelivery/MT/mtemployeearea/Shared%20Documents/Rand/Incarcerated%20Personnel/IncarceratedCrewsBooklet\(2\).pdf](http://sharepoint/systemdelivery/MT/mtemployeearea/Shared%20Documents/Rand/Incarcerated%20Personnel/IncarceratedCrewsBooklet(2).pdf))

8



- 823.1 Prohibited Work Activities for Inmates
- 823.2 Guidelines for Determining Who is Eligible to Oversee Incarcerated Crews

8 cont.

- 823.3 Role of MoDOT Supervisors
- 823.4 Dealing with Certain Situations

8 cont.

- 823.6 General Rules for Inmates
- 823.7 All in a Day's Work – Handling the Crew

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Incident Reporting	
	<u>Effective</u>	February 1, 2014	
	<u>Supersedes</u>	January 1, 2010	

POLICY STATEMENT

Employees should report all incidents or citations to their supervisor immediately regardless of how minor. Minor injuries can worsen over time and minor damage can compromise the safety of vehicles or equipment.

DEFINITIONS

Incident - An action or lack of action that results in personal injury and/or property damage.

POLICY REQUIREMENTS

1. Employees should report all incidents immediately to their supervisor, no matter how minor. Supervisors in turn should immediately notify the local Risk Management Office.
2. All work related injuries shall be reported promptly and accurately to assist with medical evaluation and treatment, and to ensure qualification for payment of medical expenses and wage replacement benefits. Failure to report your injury to your supervisor within 30 days may jeopardize your ability to receive workers' compensation benefits.
3. Employees should promptly and accurately report all other incidents such as vehicle, third party, and equipment related incidents. If an incident involves a third party vehicle, employees should immediately notify law enforcement, their supervisor and their local Risk Management Office.

PROCEDURES

1. In the event of a work related incident (personal injury or property damage), employees should report the following information:
 - a. Name(s) of employee involved in the incident
 - b. Time and place of the incident
 - c. Name of the witness to the incident
 - d. Nature of injury/injuries, or property damage
 - e. Description of how the incident occurred in a written narrative format

2. Upon being notified by an employee of a work related incident, the supervisor and/or their designee shall submit the following documents to the Risk Management Office.
 - a. Vehicle Incident
 - i. Claim Report (E-11)
 - ii. Employee Incident Statement
 - iii. Photographs if applicable
 - b. Employee Injury
 - i. Field Injury Report (A-461)
 - ii. Employee Incident Statement
 - iii. Medical Release - Authorization to release medical information
3. Employees should not sign any statements except when authorized to do so by an authorized representative of MoDOT's Office of Risk Management or law enforcement.
4. Employees should not make any statements regarding fault or potential disciplinary action that may or may not result from the incident to anyone other than MoDOT Risk Management staff or MoDOT personnel investigating the incident..

TRAINING

Gear Up – Basic Safety Training (LMS # 24492) to be completed within first week of hire.

CROSS REFERENCES

1. HR Policy 2500 - Standard Rules of Conduct
2. HR Employee Handbook

POLICY AUTHORITY

Missouri Revised Statutes 287- Workers' Compensation Law



Risks & Benefits Management SharePoint ▸ RB Policies



Risk & Benefits Management Policies

Claims

1. Risk and Benefits Management Policy Statement
2. Legal Advice
3. Workers' Compensation Self-Insurance Program
 - 1. Purpose
 - 2. General Information
 - 3. Instructions for Processing Workers' Compensation Claims
 - 4. Risk and Benefits Management Division Procedures
 - 5. Subrogation
 - 6. Final Settlements
 - 7. Physical Disability
 - 8. Supervisor Handbook
 - 9. Workers' Compensation Information
4. Fleet Vehicle Liability Procedures
5. Policy on Defending Employees on Traffic Violations
6. Property Damage Procedures
7. General Liability Procedures
8. Settlement Authority
9. Risk Assessment

Safety & Health

CURRENT FORMS LINK

Portable Ladders

Portable ladders are designed as a one-person piece of equipment with the proper strength to support the worker as well as his/her tools and materials.

The following are five general classes of portable ladders:

Type IAA - Extreme heavy duty industrial with a load capacity of 375 pounds

Type IA - Industrial. Extra heavy-duty with a load capacity of 300 pounds.

Type I - Industrial. Heavy-duty with a load capacity of 250 pounds.

Type II - Commercial. Medium-duty with a load capacity of 225 pounds.

Type III - Household. Light-duty with a load capacity of 200 pounds.

When using a portable ladder follow these safety tips:

1. Do not hand-carry loads when climbing up a ladder.
2. Do not reach so far that you lose your balance. Move the ladder instead.
3. Non-skid feet or spurs may prevent a ladder from slipping on a hard, smooth surface.
4. Do not stand on the ladder's top three rungs.
5. A damaged side rail may cause one side of a ladder to give way. Ladders, which are damaged in this way, should be removed from service.
6. Ladders used to reach a walking surface or roof must extend at least three feet beyond the top edge and be secured to the landing at the top.
7. Extension ladders need both side locks latched to prevent overloading.
8. Stepladders should be securely spread open. Never use a folding stepladder in a closed position.
9. Be aware of electrical hazards. Shock can occur with metal ladders.
10. Do not place ladders in front of doors opening toward the ladder unless the door is blocked, locked or guarded.
11. Face the ladder when ascending or descending.
12. Do not use a ladder as a brace, skid, guy or gin pole or gangway for other use not specifically recommended for use by the manufacturer.
13. Wooden ladders are prohibited.

A simple rule for setting up a ladder at the proper angle is to place the base a distance from the vertical (4:1) wall equal to one-fourth the working length of the ladder.

Step ladders shall not exceed 20 feet in length and single sections of extension ladders shall not exceed 30 feet. Two-section ladders shall not exceed 48 feet in length and over two-section ladders shall not exceed 60 feet in length.

Based on the nominal length of the ladder, each section of a multi-sectioned ladder shall overlap the adjacent section by at least the number of feet noted in the following chart:

Normal length of ladder	Overlap
Up to and including 36 feet	3 feet
Over 36 feet, up to and including 48 feet	4 feet
Over 48 feet, up to 60 feet	5 feet

Note: Ladders having defects are to be taken out of service immediately.

Risk and Benefits Management On-line Manual



Type: Safety/Health

Chapter : 2 Safety Procedures

Section: 210 Lead Safety Guidelines

Sub- Section:

Policy/Procedure #:

Effective Date:08/19/2009

Supersedes:

Dated:

MoDOT Lead Safety Guidelines

Lead Safety Guidelines Disclaimer: This document contains guidelines and procedures for minimizing employee exposure to lead, lead based paint and residues associated with the removal of lead based paint and steel manipulations involving materials coated with lead based paints. These guidelines also address procedures for the removal of lead from clothing, PPE, and equipment. These guidelines are a living/working document and can apply to most any project that involves the disturbance of lead based paints. These guidelines are subject to interpretation as field conditions warrant and are subject to change and/or modification as further testing is conducted.

Lead exposure can occur in MoDOT job activities that involve the disturbance of lead or lead containing materials. Additionally, some construction related activities such as the transport, disposal, storage or containment of lead or lead-containing materials on construction sites also contribute to lead exposure.

Lead overexposure adversely affects numerous body systems and causes forms of health impairment and disease.

Definitions

Action Level (AL) - means employees exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30g/m³) calculated as an 8-hour time weighted average (TWA).

Competent Person - person who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and has the authority to take prompt corrective measures to eliminate them.

Lead - means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

Qualified Person - person who has training and experience in exposure assessment and workplace evaluations.

Permissible Exposure Limit (PEL) – is the maximum allowable concentrations that an employee can be exposed to during an 8-hr time period without experiencing harmful effects. The PEL for lead is 50 micrograms per cubic meter of air (50g/m3).

Work Area – the area where lead removal is being performed.

Job Site – actual location where work is being performed. Which includes everything within the work area.

Health Hazards

Acute Health Effects

Lead is readily absorbed into the blood stream through the lungs and upper respiratory tract when inhaled in a powdered form or as a fume. Lead can also be absorbed into the blood stream through the digestive system when lead-contaminated dust is accidentally ingested with food or when handling cigarettes with contaminated hands. The most serious acute effect of lead exposure is on the brain and nervous system causing a condition called encephalopathy that may cause seizures, coma, and death.

Lead can also cause peripheral neuropathy with muscular weakness in the wrists and ankles, anemia due to reduced red blood cell life and impaired hemoglobin synthesis, and kidney damage. Lead may also cross the placental barrier and pose a risk to developing fetuses. Symptoms of acute overexposure include decreased appetite, insomnia, headaches, muscle and joint pain, abdominal pain, and constipation. A characteristic sign of acute lead poisoning is muscle weakness in the wrists known as “wrist drop”. Children are particularly susceptible to the adverse effects of lead exposure.

Chronic Health Effects

Lead may accumulate in many body tissues from years of exposure and cause damage to the blood-forming organs as well as the nervous, urinary, and reproductive systems. Symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, lethargy, insomnia, nervous irritability, poor memory, fine muscular tremors, severe abdominal pain, decreased sex drive, impotence, and sterility. A characteristic sign of chronic lead poisoning is the development of a dark dot-like pigmentation on the gums known as a “lead line”. Lead is considered to be a possible human carcinogen.

Routes of Entry and Medical Conditions Aggravated by Exposure

The primary route of entry into the body for lead and lead compounds is by inhalation of fine powders and fumes when metallic lead is heated. A secondary route of entry into the body is by ingestion. Exposure to lead may aggravate pre-existing nervous system, hematopoietic system, gastrointestinal system, and urinary system conditions.

Initial Exposure Assessment

If lead is present in any operation, then a qualified person must decide if an initial exposure assessment must be made to determine whether an employee's exposure exceeds the action level (AL) (30 g/m³ averaged over an 8- hour day). In most circumstances we will assume contamination levels are above the AL, as more testing is conducted jobs will be assessed case by case.

Reasons for believing that lead is present include:

- Any information, observations or calculation that would indicate employee exposure to lead
- Any previous measurements of airborne lead
- Any employee complaints or symptoms, which may be attributable to lead exposure

This initial assessment will document the exposure an employee would have without the use of a respirator.

This initial exposure assessment is not required if:

- Objective data is available which can conclusively demonstrate that no employee will be exposed in excess of the action level
- Exposure assessment has been conducted within the last 12 months for a project with very similar aspects as the project in question

Monitoring Requirements

In most circumstances we will assume contamination levels are above the AL. Monitoring will be done periodically to check the level of lead. Monitoring will include air sampling at the work area and periodic lead swipes of vehicles to make sure the lead is not going home.

Compliance

To ensure that no employees are exposed to lead in excess of the 8-hour PEL, engineering controls (shrouds, wet removal, etc.), administrative controls (policy, where to park vehicles, roll up windows, etc.) and work practice controls must be implemented. When these controls are not adequate to reduce exposures below the PEL, appropriate protection shall be provided such as respiratory protection, personal protective equipment and clothing, hand washing facilities, and training.

Respiratory Protection

Respirators must be used when the concentration of lead is at or above the PEL after engineering and work practice controls have not been sufficient to reduce exposures. Refer to MoDOT's Respirator Protection Program for additional details on the basic requirement for selection, use, cleaning and maintenance of respirators.

Protective Clothing

Appropriate protective clothing and equipment shall be provided to employees who are exposed to lead above the PEL. Protective clothing and equipment are necessary to protect employees from transporting lead from work to home. Appropriate protective clothing and equipment can include:

- **Coveralls or tyvek suits:** MoDOT shall provide disposable or washable full-body coveralls or tyvek suits. A sufficient quantity shall be provided for all workers in the work area. Supervisors shall ensure workers wear the protective clothing provided. Coveralls or tyvek suits shall be disposed of or stored for future use before leaving the job site.
- **Gloves:** Work gloves shall be provided for each worker and shall be worn. Glove material shall be appropriate for the specific task. Your District Safety and Health Manager will perform a job safety analysis to determine the appropriate glove material. Gloves shall be either disposed of or stored for future use before leaving the job site.
- **Hardhats:** Head protection (hardhats) shall be utilized. Hardhats shall remain in the work area until the project is completed. Hardhats shall be thoroughly cleaned and stored before being removed from the job site at the end of the day.
- **Boots:** Workers shall wear work boots with nonskid soles and appropriate toe protection. Boot covers shall be utilized when in the work area. Boot covers shall be either disposed of or stored for future use before leaving the job site.
- **Protective Eye Wear:** Appropriate eye protection shall be worn while in the work area. Eye protection shall be cleaned and stored before leaving the job site.
- **Safety Vest:** Safety vest shall be worn by all employees when on or near MoDOT right-of-way. Safety vest shall be cleaned and stored appropriately before leaving the job site.
- **Fall Protection Harness:** Safety harnesses shall be provided when working from heights greater than 6 feet. Harnesses shall be cleaned and stored appropriately before leaving the job site.

Protective clothing is required to be removed within the work area. Contaminated clothing shall not be worn in the cab of vehicles. The contaminated protective clothing that is to be cleaned, laundered or disposed of is to be placed in a closed and labeled container. Laundry facilities must be informed that the protective clothing is contaminated with lead.

Work Procedures

The following procedures shall be observed prior to beginning work:

- Shall change into work clothing and shoes before entering the work area.
- Utilize work garments and appropriate protective gear, including respirators, before entering the work area.
- Appropriately store any clothing not worn under protective clothing.

Employees shall follow these procedures during and upon leaving the work area:

- HEPA vacuum heavily contaminated protective work clothing while it is still being worn. At no time may lead be removed from protective clothing by any means which can result in uncontrolled dispersal of lead into the air i.e. air hoses.
- Remove the protective equipment in the work area.
- Remove disposable shoe covers and dispose.

Employees should follow these procedures upon finishing work for the day (in addition to procedures described above):

- Do not get in work vehicles with contaminated protective gear/clothing.
- Remove gloves and place in appropriate containers.
- Remove protective coveralls by carefully rolling down the garment to reduce exposure to dust.
- Store coveralls in appropriate containers.
- Remove respirators last.
- Wash face and hands.
- Clean respirator.
- Use a HEPA vacuum to remove lead contaminants from the interior of department vehicles weekly.
- Where applicable, place disposable coveralls and shoe covers with the abatement waste.
- Contaminated clothing which is to be cleaned, laundered, or disposed of must be placed in closed containers.
- Clean protective gear, including respirators, according to standard procedures.
- Wash hands and face again. If showers are available, take a shower and wash hair. If shower facilities are not available at the work site, shower immediately off site.

Products and Equipment

Vacuums - Vacuums shall be leak proof to the filter, equipped with HEPA filters, and be of sufficient capacity and provide the necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the lead contaminated waste material.

Tarps – Shall be used to collect lead as it falls to the ground.

Disposal Containers and Storage Containers - Six-mil (6 mil) thick leak-tight bags and leak-tight disposal containers shall be provided for storage and disposal of lead contaminated PPE and other equipment. Leak-tight means that solids, liquids or dust cannot escape or spill out.

Hygiene Facilities

For all employees who perform lead-related tasks/operations (regardless of lead level), hand-washing facilities must be provided.

Employees are prohibited from smoking, eating and applying cosmetics in work areas where employees are exposed to lead. Additionally, no tobacco products, food items or cosmetics are to be kept in work areas where employees are exposed to lead.

Housekeeping

When vehicles and other equipment are parked down wind of the work area, make sure all windows and doors are shut. All surfaces should be maintained as free as practical of lead dust accumulation. Vacuuming these surfaces with high-efficiency particulate air (HEPA) filters is the preferred method of housekeeping. The vacuum must be emptied in a manner, which minimizes lead dust reentry into the workplace. Dry or wet sweeping, shoveling or brushing may be used only if vacuuming or equally effective methods have been tried and do not work.

Clean Up

Daily - Surfaces in the lead work area shall be maintained free of accumulations of paint chips and dust. Spread of dust and debris shall be restricted; waste shall not be distributed over the work area. Dry sweeping or compressed air shall not be used for cleanup. Tarps shall be cleaned off with HEPA vacs.

Medical Surveillance Program

The purpose of medical surveillance is to make sure employees are not being exposed to lead levels at or above the AL of 30g/m³. This program is also in place to make sure that our current PPE and prevention controls are working effectively.

Medical Removal Protection

The MoDOT shall remove any employee from work when Blood Lead Level (BLL) results are greater than 50ug/dl. An employee on medical removal may return to work with a BLL at or below 40ug/dl or upon approval of the physician.

Training

Employees with potential job-related lead exposure must be trained in:

- Specific hazards associated with their work environment
- Protective measures to be taken against these hazards
- The danger of lead to their bodies and their families
- Employee rights under this safety policy and the OSHA Standard on Lead in Construction

Employees will be trained prior to their initial job or reassignment. Additionally, refresher training shall be provided annually.

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Materials Handling – Lifting, Pushing, Pulling (PowerLift technique)

1. Lifting, Pushing, Pulling

Employees should not manually lift more than 75 lbs. When possible, avoid manual lifting and lowering tasks by utilizing team lifts or equipment designed for that purpose, i.e., overhead cranes, pneumatic drum handlers, hydraulic lifts, hand trucks, etc. When possible, equipment and materials shall be procured to meet the 75lb weight restriction. When manual lifting is required, each employee shall:

- a) Think before lifting. Size up the load and determine if additional help is needed to safely handle the load because of its weight or shape.
- b) Remove greasy substances from hands before lifting. Grip the object firmly to prevent it from slipping from your grip.
- c) Be sure footing is firm and your body is balanced before attempting a lift. Avoid awkward positions.

2. PowerLift

The condition of your back affects nearly everything that you do. Your performance at work as well as at home and even during your valued recreational time is completely dependent upon the strength and condition of your back.

Lifting with your back causes back injury. We have all heard that we need to lift with our legs, not our back; stand with your legs shoulder width apart and bend at the knees. Most people do not lift this way because it does not work. This position is unstable; your knees are in the way and require you to squat too far down.

The PowerLift technique is a safer way to lift. This technique requires you to spread your feet wider than shoulder distance then lift with your legs like an elevator rather than with your back like a crane.

To Create a PowerLift

- a) Approach the load at the corner; spread your feet and bend your knees
- b) Get close to the load – feet and knees are out of the way.
- c) Put your chin up just before you lift. This puts your back into a neutral position, the strongest position a human back can achieve.
- d) Lift with your legs like an elevator, keeping your knees from bending more than 100 degrees adds power.

➤ **For more information, refer to PowerLift Training**

Chapter : 2 Safety Procedures

Section: 208 Liquefied Petroleum Gas and
Compressed Gas Cylinders

Sub- Section:

Policy/Procedure #:

Effective Date: 08/01/2012

Supersedes: 07/01/2011

Dated:

Purpose

The purpose of this policy to improve employee safety and reduce fire/explosions hazards and/or other incidents associated with liquefied petroleum gas (LP-Gas) and compressed gas cylinders by requiring employees to follow the State and Federal standards for handling, storing, transferring, and/or transporting of Liquefied Petroleum (LP)-Gas or compressed gas cylinders set forth by the governing State and Federal agencies and/or authorities.

State and Federal Requirements

The U.S. Department of Transportation (DOT) sets regulations, requirements, and specifications for cylinders, the shipping of, and the transporting of LP and compressed gas cylinders in 49 CFR.

Occupational Safety and Health Administration (OSHA) Standard, 29 CFR 1910 and CFR 1926 set regulations for ensuring employee safety through proper handling, storage and transporting of LP and compressed gas cylinders

National Fire Protection Agency (NFPA) 58 LP-Gas Code provides standards for but, not limited to LP-Gas transfer, cylinder specifications and requirements, the storage of, the transport of, and inspections of cylinders/containers.

Missouri Propane Gas Commission (MPGC) responsibilities include developing and implementing propane safety plans and programs, and promulgating, administering, and enforcing propane rules and regulations.

The Compressed Gas Association (CGA) sets standards for visual inspections of steel and aluminum LP-Gas and compressed gas cylinders

International Fire Code (IFC) Chapter 38 establishes requirements for the safe handling, storing and use of LP-gas to reduce the possibility of damage to containers, accidental releases of LP-gas and exposure of flammable concentrations of LP-gas to ignition sources.

Training

All employees who are directly involved in handling, storing, transferring and/or transporting of LP-Gas and/or compressed gas cylinders shall receive training pertinent to the duties performed, associated with LP and compressed gases and cylinders (as determined by the supervisor).

All required training shall be documented, entered in LMS (as applicable), and updated as required.

Authority and Responsibilities

The supervisor is directly responsible for the employee's safety. As such, the supervisor is responsible for ensuring the following:

- Obvious fire hazards are identified and hazardous conditions are immediately corrected
- Employees under their control and affected by this policy, are adequately trained in the handling, storage, transferring, transporting, and inspection of, LP-Gas and compressed gas cylinders
- Will determine the level of training needed per employee based on the employee's duties
- All employees under their control follow the described practices within this policy

Employees are responsible for complying with the practices within the LP-Gas and Compressed Gas Cylinder Policy.

The District Safety and Health Manager will assist supervisors with the scheduling/coordinating of required training and document required training to ensure updates of training are achieved as required (as applicable).

Specific Requirements

Visual Cylinder Inspections –

Each employee shall determine that LP-Gas and compressed gas cylinders under their control are in a safe condition to the extent that this can be determined by visual inspection. Visual and other inspections shall be conducted as prescribed in the Hazardous Materials Regulations of the Department of Transportation (49 CFR parts 171-179 and 14 CFR part 103). Where those regulations are not applicable, visual and other inspections shall be conducted in accordance with Compressed Gas Association (CGA) Pamphlets C-6-2001 and C-6.3-1999 (Attachment A and B of this policy), which is incorporated by reference as specified in OSHA Sec. 1910.6.

Any cylinder that does not meet specification or does not pass visual inspection shall be taken out of service immediately, documented as such, and returned to a qualified authority.

Transporting of Cylinders –

LP-Gas and compressed gas cylinders in non-use transport or bulk transport shall be checked for leakage prior to loading. Cylinders shall be loaded into vehicles with flat floors and securely fastened in the upright position or secured in racks or brackets and securely fastened in the upright position. Valve protection caps (as applicable) shall be in place and hand-tight, when cylinders are in non-use transport or bulk transport. Vehicle mounted LP-Gas and compressed gas cylinders being transported for periodic or immediate use shall be mounted securely in the upright position on the vehicle and/or within an enclosed recess or cabinet and shall be located in accordance with the following:

1. Cylinders shall not be mounted directly on roofs or ahead of the front axle or beyond the rear bumper of the vehicle. No part of the cylinder or its appurtenances shall protrude beyond the sides of the vehicle.
2. Cylinders shall be mounted with as much road clearance as practical (measured from the lowest point of the cylinder assembly to the roadway surface) and shall not be any lower than the lowest part of the vehicle
3. Cylinders shall be mounted and securely fastened to prevent jarring loose, slipping and/or rotating.

4. Where cylinders are mounted within a vehicle housing, the housing shall be securely fastened to the vehicle and all removable portions of the housing or cabinet shall be secured while in transit. All storage cabinets or housing shall allow for adequate ventilation.

5. All cylinder valves, appurtenances, and connections shall be protected to prevent damage from contact with stationary objects, from loose objects, stones, mud, and/or ice thrown from the roadway surface and be protected from damage due to overturn or similar vehicular incident.

(U.S. DOT 49 CFR Part 178), (NFPA Gas Code 58 3.8, 6.2), and (OSHA) Regulations, 29 CFR, Part 1926.152 Subpart F, *Flammable and Combustible Liquids*.

Storage and Segregation of Cylinders

Protection of Valves on Cylinders in Storage-

Cylinders in storage shall be protected by screw-on-type caps and/or collars (as applicable). Protection shall be in place on all stored cylinders, regardless of whether they are full, partially full, or empty. Cylinder outlet valves shall be closed and plugged or capped while in storage.

Oxygen and Acetylene Cylinder Storage -

All oxygen and acetylene cylinders stored in buildings shall be secured upright to the walls and the storage area for oxygen cylinders shall be a minimum of 20 ft. from the storage area for acetylene cylinders. All oxygen and acetylene cylinders shall be located a minimum of 20ft. from sources of ignition, such as oil and grease, oil and grease soaked towels and/or spark producing materials, tools or operations; or be separated by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. Valve protection caps shall always be in place and hand-tight, when cylinders are not in use (as applicable). (OSHA) Regulations, 29 CFR, Part 1910, Subpart Q, *Welding Cutting, and Brazing*.

LP-Gas Cylinder Storage-

General Location of LP-Gas Cylinders- Cylinders in storage shall be located to minimize exposure to excessive temperatures, physical damage, and/or tampering. Cylinders in storage shall not be located near exits, stairways, or in areas normally used, or intended to be used for the

safe egress of occupants.

-All empty cylinders awaiting re-fill shall be treated as full cylinders.

-Cylinders shall not be stored on roofs.

(NFPA Gas Code 58 5.2.1)

Storage of LP-Gas Cylinders within Buildings- Storage of DOT LP-Gas cylinders or vehicles/equipment with DOT LP-Gas cylinders **shall** be limited to "cold storage" buildings or other external storage buildings and cabinets.

Parking, Servicing, and Repairs within Buildings – Vehicles with ASME tanks are permitted to be parked inside buildings for servicing and repairs, **and** in accordance with the following:

1. The fuel system shall be leak-free, and the container shall not be filled beyond its limits in accordance with Chapter 4 of the NFPA 58 Fuel Code transferring /re-filling procedures.
2. The container shutoff valve shall be closed (Exception: the container shutoff valve may not be required to be closed when fuel is required for test or repair).
3. The vehicle shall not be parked near sources of heat, open flames, or similar sources of ignition, and/or near unventilated pits (NFPA Gas Code 58 3.8.6)

Outside Storage of LP-Gas Cylinders- Storage outside of buildings for LP-Gas cylinders awaiting use, or part of a cylinder exchange point shall be located as follow:

- At least 10 ft. from any doorway or opening considered to be a means of egress
- At least 20 ft. from any automotive fuel dispenser
- In accordance with Table 5.4.1.3 with respect to the following:
 1. Nearest important building or group of buildings
 2. Line of adjoining property that may be built upon
 3. Busy thoroughfares or sidewalks
 4. Line of adjoining property occupied by schools, churches, hospitals, athletics fields, or other points of public gathering
 5. Transferring/dispensing station

Quantity of LP-Gas Stored	Horizontal Distance to...
	(1) & (2)(3) & (4)(5)
Lbs. water capacity	ft
< 720	10
721 to 2500	10
2501 to 6000	10
6001 to 10,000	20
>10,000	25

Exception: Cylinders in the filling process are not considered to be in storage (NFPA Gas Code 58 5.4.1,2,3)

Outside Storage Protection-

- Storage areas open to the public should be protected by a lockable, 6 ft., woven wire, fence or ventilated metal locker or rack that prevents tampering with valves and pilferage of cylinders
- Vehicular protection- protection against vehicle impact shall be provided in accordance with good engineering practice where vehicle traffic normally is expected at the location. Some examples could include: Guard rails, steel bollards, or raise sidewalks. (NFPA 58.8.4.2.2 Annex A)
 - The International Fire Code, sections 312.1 - 312.3, offers more guidance which could be utilized when installing vehicle protection. See Appendix A.
- Fire protection- storage locations shall be provided with at least one approved portable fire extinguisher having a minimum capacity of 18 lbs. dry chemical with B-C rating. The required extinguisher shall be located no more than 50 ft. from the storage location

Transferring Liquefied Petroleum Gases –

Transferring of LP-Gas by unauthorized MoDOT employees is strictly prohibited.

Any MoDOT employee involved in the transfer of LP-Gas from any container to another, shall be trained and certified by successfully

completing the National Propane Gas Association's Certified Training Program or equivalent and shall attend the required refresher training course a minimum of every three years.

(Missouri Statute LP-Gas Law- 2 CSR 90-10.012 Registration and Training)

Protective Equipment

Any MoDOT employee involved in or assisting with the transfer of LP-Gas, shall properly wear personal protective equipment. In addition to the standard protective clothing required for all field employees (hard hat, long pants, steel-toed shoes, etc...) the employees should also wear a face shield, safety glasses, and appropriate rubber coated insulated/lined gloves.

Dispensing Areas

All LP-Gas dispensing stations shall have recommended fill procedures posted in a conspicuous location and all dispensing stations shall be equipped with a state-approved scale to be utilized for the safe filling of LP-Gas cylinders. LP-Gas cylinders of (100) pounds water capacity or less shall be filled by **weight only** utilizing a state-approved scale.

State approved scales shall be re-verified and/or re-calibrated at least annually by a qualified authority.

All LP-Gas dispensing stations shall be protected from tampering or vandalism by either a (6') foot high industrial fence with (1) lockable gate, or a lockable storage cabinet to protect service valves, meters, hoses and other appurtenances.

At least one portable fire extinguisher having a rating of not less than 18 lb. dry chemical-B:C units shall be provided at locations where propane is dispensed.

All storage cabinets or housing shall allow for adequate ventilation.
(Missouri Statute LP-Gas Law- 2 CSR 90-10.013 Installation)

Single trip, non-refillable, or disposable containers shall not be refilled by any MoDOT employee
(NFPA 58 Code- LP-Gas Transfer 4.2.2.5)

Glossary

Approved- means approval issued or recognized by the DOT unless otherwise specifically indicated

Appurtenances - equipment consisting of miscellaneous articles needed for operation of LP-Gas or Compressed gas systems

Authority- means an agency responsible under law for the control and/or regulation of a particular aspect of the transportation of hazardous materials and/or containers

Authorized Personnel – for the purpose of this policy authorized personnel refers to trained and certified personnel

Bulk – means hauling with a transport vehicle or freight container, in which hazardous materials are loaded with no intermediate form of containment

Certified - endorsed authoritatively as having met certain requirements, holding appropriate documentation and officially on record as qualified to perform a specified function or practice a specified skill

“Cold Storage” Building – any building that is used for storage that does not contain any open flames and/or ignition sources examples include, water heaters w/pilot lights, furnaces, wood stoves etc.

Container- All vessels, such as tanks, cylinders, or drums, used for transportation or storing liquefied petroleum gases or compressed gases.

Deformation- Alteration in the shape or dimensions of an object as a result of the application of stress or excessive wear

Dispensing Station- Area where transferring of LP-Gas from bulk storage to containers/cylinders takes place

DOT- means U.S. Department of Transportation.

Fire Resistance- means so resistant to fire that, for specified time and under conditions of a standard heat intensity, it will not fail structurally and will not permit the side away from the fire to become hotter than a

specified temperature. For purposes of this part, fire resistance shall be determined by the Standard Methods of Fire Tests of Building Construction and Materials, NFPA 251-196

Flammable- means capable of being easily ignited, burning intensely, or having a rapid rate of flame spread.

Flammable liquids- means any liquid having a flash point below 140 deg. F. and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 deg F.

Handling- For this policy handling is the act of lifting, moving, utilizing, filling or re-filling, hauling, storing and/or inspection LP-Gas or compressed gases and/or cylinders

Liquefied petroleum gas or LP-Gas- means and includes any material that is composed predominantly of any of the following hydrocarbons, or mixtures of them, such as propane, propylene, butane (normal butane or iso-butane), and butylenes.

Qualified Authority- for the purpose of this policy, qualified authority refers to the supplier, vendor, or dealer of LP-Gas, compressed gases, and/or cylinders

Shipping- the commercial enterprise of transporting goods and Materials

Storage- any container in non-use for 24 hours or more shall be considered in storage

Transfer or Transferring – For this policy transferring means the act of filling or re-filling LP-Gas or compressed gas containers

Transport- means the movement of property and loading, unloading, or storage incidental to that movement

Attachments



[CGA aluminum cylinder inspections B.pdf](#)



[CGA steel cylinder inspections A.pdf](#)



[Inspection Report C.xls](#)

Appendix A.

International Fire Code

SECTION 312 VEHICLE IMPACT PROTECTION

312.1 General.

Vehicle impact protection required by this code shall be provided by posts that comply with Section 312.2 or by other approved physical barriers that comply with Section 312.3.

312.2 Posts.

Guard posts shall comply with all of the following requirements:

- 1. Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.*
- 2. Spaced not more than 4 feet (1219 mm) between posts on center.*
- 3. Set not less than 3 feet (914 mm) deep in a concrete footing of not less than a 15-inch (381 mm) diameter.*
- 4. Set with the top of the posts not less than 3 feet (914 mm) above ground.*
- 5. Located not less than 3 feet (914 mm) from the protected object.*

312.3 Other barriers.

Physical barriers shall be a minimum of 36 inches (914 mm) in height and shall resist a force of 12,000 pounds (53 375 N) applied 36 inches (914 mm) above the adjacent ground surface.

Chapter : 2 Safety Procedures

Section: 207 The Control of Hazardous Energy
(Lockout / Tagout)

Sub- Section:

Policy/Procedure #:

Effective Date: 01/01/2008

Supersedes:

Dated:

General

MoDOT employees work around various types of live and stored energy that have the potential for causing serious injury and death. The Occupational Safety and Health Administration (OSHA) has recognized that protective measures must be taken to prevent these forms of energy from causing severe injuries or fatalities. Forms of energy identified with MoDOT activities include but are not limited to:

1. Electrical exposures are the most numerous and have the ability to affect all MoDOT employees.
2. Hydraulic energy sources can be found in brush hogs, batwings, excavators, distributors, booms, lifts, dump beds, and snowplows, etc.
3. Pneumatic energy sources include compressors, hand tools, and gases under pressure, core drills, and sand blasters, etc.
4. Gravity, which applies to V-beds, mowers, unrestrained vehicles, and equipment, etc.
5. Mechanical energy present around all heavy equipment like chippers, rotomills, rollers, pug mills, and articulated loaders, etc.
6. Thermal exposures, such as hot mix applications, distributors, boilers, space heaters, furnaces, and copiers, etc.

Scope

This policy covers the servicing and maintenance of machines and equipment in which the **unexpected** energization or start up of the machines or equipment, or release of stored energy could cause injury to employees and/or damage equipment. This policy establishes minimum performance requirements for the control of such hazardous energy.

Purpose

This policy requires employees to establish a program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start up or release of stored energy in order to prevent injury to employees.

Note: When other sections in this policy require the use of lockout or tagout, they shall be used and supplemented by the procedural and training requirements of this section.

Exceptions

Installations under the exclusive control of electric utilities for the purpose of power generation, transmission and distribution, including related equipment for communication or metering; and Exposure to electrical hazards from work on, near, or with conductors or equipment in electric utilization installations, which is covered by OSHA 29 CFR 1926.800

Application

This standard applies to the control of energy during servicing and/or maintenance of machines and equipment

Specifics covered under this policy include but, are not limited to:

1. Performing maintenance on striping trucks, paint tanks and/or systems. which have mechanical agitators;

2. Performing maintenance on motor vehicles, (motorized and non-motorized). and heavy equipment;
3. Servicing or performing maintenance on power tools (corded and cordless).
4. Servicing or performing maintenance on machinery or equipment where hazardous energy can be stored, such as gravitational energy, pressurized hydraulic systems, compressed air systems and electric current stored in capacitors.
5. Any of the above situations that would be considered a "Permit Required Confined Space"

Members of both the authorized and affected workforce may include, but are not limited to:

1. Buildings and Grounds Personnel
2. All Mechanics
3. All employees who work on or near electrical equipment, including Information Systems Personnel.
4. Maintenance and Construction Employees.
5. Materials Employees
6. Traffic Employees
7. Special Crews (as applicable)

Exceptions under this Policy:

NORMAL production operations are not covered by this policy,
UNLESS an employee must remove a guard or safety device and/or

an employee places a body part into an area on the machine or piece of equipment where work is being processed or where a danger zone exists during a machine cycle.

This policy doesn't apply to the following if or when:

- Hot tap operations involving transmission and distribution systems for substances such as natural gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that-
- continuity of service is essential;
- shutdown of the system is impractical; and
- documented procedures are followed, and special equipment is used which will provide proven effective protection for employees.

PERMITTED are minor tool changes and adjustments, which take place during normal production if they are routine, repetitive, and integral to use of the machine or equipment protected by guarding. Also excluded is work on devices that are furnished energy through electric cords, which can be unplugged. The service person must remove the plug from the energy source and have complete control over the plug. If left unattended the plug end of the cord should have a signed warning tag attached and if possible, a lockout device.

Definitions applicable to this policy-

Affected employee. An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee. A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Capable of being locked out. An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be

achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized. Connected to an energy source or containing residual or stored energy.

Energy isolating device. A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. **Push buttons, selector switches and other control circuit type devices are not energy isolating devices.**

Energy source. Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot tap. A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Lockout. The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device. A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations. The utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance. Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the **unexpected** energization or startup of the equipment or release of hazardous energy.

Setting up. Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout. The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device. A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed. Tags shall bear the name of the "authorized person" with date of application. Tags must be durable, weather proof, and not easily damaged.

Energy control program

Districts and Divisions shall establish a program consisting of establish and utilize energy control procedures, employee training and periodic inspections.

Lockout/tagout

If an energy isolating device is not capable of being locked out, the energy control program shall utilize a tagout system.

When a tagout device is used on an energy isolating device which is not capable of being locked out, the tagout device shall be attached at the same location that the lockout device would have been attached.

If an energy isolating device is capable of being locked out, the energy control program shall utilize lockout.

Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machine or equipment shall be designed to accept a lockout device.

Full Employee Protection

Full employee protection shall include the implementation of additional safety measures such as the removal of an isolating circuit elements, blocking of a controlling switch, opening of an

extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.

General Energy control procedures

A general list of procedures shall be provided (**see attachment A**), and should be utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by this section.

Protective materials and hardware

Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided for isolating, securing or blocking of machines or equipment from energy sources.

Lockout devices and tagout devices shall be the only devices(s) used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:

1. Durable

- Lockout and tagout devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
- Tagout devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
- Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.

2. Standardized

- Lockout and tagout devices shall be standardized within the facility in at least one of the following criteria: Color; shape; or size; and additionally, in the case of tagout devices, print and format shall be standardized.

3. Substantial

- Lockout devices- Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.
- Tagout devices.-Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental

removal. Tagout device attachment means shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece, all environment-tolerant nylon cable tie.

4. Identifiable

- Lockout devices and tagout devices shall indicate the identity of the employee applying the device(s).
- Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: **Do Not Start. Do Not Open. Do Not Close. Do Not Energize. Do Not Operate.**

Periodic inspections

An authorized employee shall conduct periodic inspections of the energy control procedures at least annually to ensure that the procedures and the requirements of this policy are being followed.

Note: The inspections shall be performed by an authorized employee other than the ones(s) utilizing the energy control procedure being inspected.

The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

Where lockout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected.

The supervisor shall ensure that the periodic inspections have been performed.

Training and Communication

The supervisor shall ensure training is provided to employees. So, that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

Each affected employee shall be instructed in the purpose and use of the energy control procedure.

All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

When tagout systems are used, employees shall also be trained in the following limitations of tags:

- Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached as an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
- Tags must be legible and understandable by all authorized employees, affected employees, and

all other employees whose work operations are or may be in the area, in order to be effective.

- Tags and their means of attachment must be made of materials, which will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Employee retraining

Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.

Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever the supervisor has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

The supervisor shall record that employee training has been accomplished and is being kept up to date. The records shall be entered into LMS and contain each employee's name, dates of training, and the trainer's name.

Application of Energy Controls

Energy isolation

Lockout or tagout shall be performed only by the authorized employees who are performing the servicing or maintenance.

Notification of employees

Affected employees shall be notified by the supervisor or authorized employee of the application and removal of lockout devices or tagout devices. Notification shall be given before the controls are applied, and after they are removed from the machine or equipment.

Application of Energy Control Procedures

The established procedures for the application of energy control (the lockout or tagout procedures) shall cover the following elements and actions and shall be done in the following sequence:

1. Preparation for shutdown

Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

2. Machine or equipment shutdown

The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

3. Machine or equipment isolation

All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

4. Lockout or tagout device application

- Lockout or tagout devices shall be affixed to each energy isolating device by authorized employees.
- Lockout devices, where used, shall be affixed in a manner to that will hold the energy isolating devices in a "safe" or "off" position.
- Tagout devices, where used, shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.
- Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened

at the same point at which the lock would have been attached.

- Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

5. Release stored energy

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.

If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

6. Verification of isolation

Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished.

Release from lockout or tagout (start-up)

Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure the following:

7. The machine or equipment and area inspection

The work area shall be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components and safety guards are operationally intact.

8. Ensure employees safety

The work area shall be checked to ensure that all employees have been safely positioned or removed.

9. Check equipment controls

Ensure that power switches and/or any other start up devices are in the "off" position

10. Lockout or tagout devices removal

Each lockout or tagout device shall be removed from each energy isolating device by the employee who applied the device.

Important Note: When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the absent authorized employee's supervisor, provided that specific procedures and training for such removal have been developed, documented and incorporated into the energy control program. The supervisor shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it. The specific procedure shall include at least the following elements:

- Verification by the supervisor that the authorized employee who applied the device is not at the facility;
- Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed; and

Ensuring that the authorized employee has this knowledge before he/she resumes work at that facility.

11. Notify Employees

After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.

Additional requirements

Testing or positioning of machines, equipment or components thereof.

In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:

1. Clear the machine or equipment of tools and materials in accordance with paragraph (e)(1) the release procedures section of this section policy;
2. Remove employees from the machine or equipment area in accordance with paragraph (e)(2) the release procedures section of this section policy;
3. Remove the lockout or tagout devices as specified in paragraph (e)(3) the release procedures section of this section policy;
4. Energize and proceed with testing or positioning;
5. De-energize all systems and reapply energy control measures in accordance with paragraph (d) the application of control section of this section policy to continue the servicing and/or maintenance if needed.

Outside personnel (contractors, etc.)

Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this standard policy, the on-site supervisor and the outside employer shall inform each other of their respective lockout or tagout procedures.

The on-site supervisor shall ensure that his/her employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

Group lockout or tagout

When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

Group lockout or tagout devices shall be used in accordance with the procedures required by this policy including, but not necessarily limited to, the following specific requirements:

Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock);

Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment and when more than one crew, craft, department, etc. is involved, assignment of overall job-associated lockout or tagout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection; and each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

Shift or personnel changes

Specific procedures shall be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment, or the release of stored energy.



Category:142 Missouri One Call System

From Engineering Policy Guide

**SAFETY
BEGINS
WITH ME**

Excavation Safety - Marking Utilities
(<http://wwwwi.intranet/tr/documents/08-2011.pdf>)

Missouri One Call System,
Inc. (MOCS)
(<http://www.mocall.com/>),
operating as a non-profit
Missouri corporation per
RSMo Chapter 319

(<http://www.moga.mo.gov/statutes/c319.htm>), facilitates the location of underground utilities. Its statewide toll-free telephone number, **1-800-DIG-RITE (344-7483)**, operates 24 hours a day, seven days a week. MOCS, established in 1986, provides statewide services to utilities and excavators to comply with the law. This law applies to any person excavating in the state of Missouri.

MOCS was established to protect underground facilities and assist excavators and utilities in complying with Missouri's statute and OSHA Rules 1926.651. By using MOCS, the general public's safety and the environment also are protected.

Specifics about the planned excavation will be required when contacting MOCS by telephone or internet. Once this information is processed, a list of member utilities that will be notified of the excavation will be provided. The locate request is then sent to all member utilities with facilities in the dig site area. After the utility has been notified of the planned excavation, they will mark the "approximate location" of their underground lines or advise that there are no facilities in the area.

After it is determined that markings are required, the locate request will be dispatched to a field locator who will locate and mark the excavation site with paint, stakes or flags. Members mark their facilities according to specific guidelines and color codes.

Legislatively, MoDOT became a member of Missouri One Call System January 1, 2009. MoDOT's participation in Missouri One Call does not exclude any one wanting to work on MoDOT right of way from obtaining a permit or completing the Notice of Intent to Perform Work Process

Red	ELECTRIC
Yellow	GAS-OIL-STEAM
Orange	COMMUNICATION-CATV
Blue	WATER
Green	SEWER
Flourescent Pink	TEMPORARY SURVEY MARKINGS
White	PROPOSED EXCAVATION
Purple	RECLAIMED WATER

MoDOT employees use flourescent pink
(<http://lnapp1/gs/dcinvent.nsf/3f5be1c697b3ae3886>
OpenDocument) paint for marking on the
roadway and white for proposed excavation.

Form

Missouri One Call Locate Request
(<http://mo.itic.occinc.com/LocateRequest.pdf>)

Additional Information

MOCS General Information

MO One Call PowerPoint Presentation
(<http://wwwwi.intranet/tr/documents/One-Call-&-You.ppt>)

Locating and Marking Best Practices
(http://www.mocall.com/markings/documents/cga_best_practices.pdf)

Backup Message Information

Backup Message Methods
Daily Audit Report (http://wwwwi/intranet/tr/documents/Daily-Audit-Report.pdf)
Internet Ticketing Information (http://wwwwi/intranet/tr/documents/Internet-Ticketing-Information.pdf)
Membership Application Information (http://wwwwi/intranet/tr/documents/Membership_Application_Information.pdf)
On-line Reports (http://wwwwi/intranet/tr/documents/On-line_Reports.pdf)
Related Information
Notice of Intent to Perform Work Process (http://www.modot.mo.gov/asp/intentToWork.shtml)

(<http://www.modot.mo.gov/asp/intentToWork.shtml>) . However, before excavation will take place on our right of way, no longer will two phone calls be necessary to locate the underground facilities. Notification of the excavation will be made only to Missouri One Call, not MoDOT.

Requesting a Locate

Any person making or beginning any excavation must notify MOCS at least three but not more than ten working days in advance, except in the cast of an emergency. There are three ways to place a locate request:

1. Internet Ticketing (ITIC) (http://www.mocall.com/welcome_excavator.php?User=E)
2. Calling
3. Fax

ITIC allows the locate request to be placed anytime, 24 hours a day. After processing the ticket, the requester will receive an email confirmation listing the utilities at the dig site and a ticket number. To use ITIC, the requester must register by calling the ITIC administrator at (573) 636-1550 or email at moitic@occinc.com

Excavators may call MOCS 24 hours a day, seven days a week at 1-800-DIG-RITE or 811 and give the operator information allowing the utility locators to find and mark the dig site.

Faxing the information is also an allowable method. Of course, the faxed agreement must be signed to be valid.

The Call Center will ask for the type of ticket being requested. There are seven types of tickets:

1. **Routine**, a regular locate request
2. **No Response**, requested when one or more utilities failed to respond to the original locate request. Identify those who have not responded, if possible, by comparing the list of utilities on the original ticket.
3. **Emergency**, requested when a sudden, unexpected occurrence, presenting a clear and imminent danger demanding immediate action or to prevent or mitigate loss or damage to life, health, property or essential public services. "Unexpected occurrence" includes but not limited to thunderstorms, high winds, ice or snow storms, fires, floods, earthquakes or other soil or geologic movements, riots, accidents, water or wastewater pipe breaks, vandalism or sabotage or any interruption in the generation, transmission or distribution of electricity or any damage to property or facilities that causes or could cause such an interruption.
4. **Dig-up**, when damage to facilities has occurred, MOCS must be notified. If damage involves pipeline or natural gas line, then 911 and the affected utility must also be notified.
5. **Renewal**, requested when previous marks are not visible and need to be remarked due to weather, construction or work not starting.
6. **Preliminary Design**, requested to determine what facilities are present when planning a project. Contact names and phone number will be supplied. No marking will be made.

7. Design, requested when planning a project and a ticket will be generated for markings at the site. Utilities are allowed 5 working days to respond and excavation cannot occur. Before excavating, a routine ticket must be requested.

A few things to remember when requesting a locate. Utilizing the Missouri One Call Locate Request Form (<http://mo.itic.occinc.com/LocateRequest.pdf>) will help ensure all the pertinent information is easily available. Be sure to mark the area of excavation with white paint or a white flag (<http://lnappl/gs/dcinvent.nsf/3f5be1c697b3ae3886256ce6006eaf1d/fe5bd24edc236b5d86256d47006d6749?OpenDocument>) . Identify yourself as the "caller" and MoDOT as the "company".

Performing a Locate

Upon receipt of a locate request, MoDOT reviews the information on the ticket and either marks the approximate location of the underground utilities, request additional information or advise the excavator the area is "clear". MoDOT has two working days to perform these actions.

If utilities need to be located, markings are required to identify the approximate location of the underground utilities. The approximate location is a strip of land not wider than the width of the underground facility plus 2 ft. on either side thereof. Markings are made with either red paint or flags for electrical facilities or orange paint or flags for communication facilities and done in accordance with the national standards developed by the Common Ground Alliance

(http://www.mocall.com/docs/cga_code_markings.pdf) . Red

(<http://lnappl/gs/dcinvent.nsf/3f5be1c697b3ae3886256ce6006eaf1d/304a81992574632a86256f9d006731a1?OpenDocument>) and orange flags

(<http://lnappl/gs/dcinvent.nsf/3f5be1c697b3ae3886256ce6006eaf1d/3dc1256ea0ec428f86256f9d006814ce?OpenDocument>) are available from the warehouse (<http://lnappl/gs/dcinvent.nsf?opendatabase>) .

If the area of excavation cannot be determined from the description provided on the ticket, MoDOT may request the excavator to either: mark with a white line the proposed area of excavation, provide project plans or meet at the site. Either party may also request an on-site meeting to clarify markings, but must occur within two working days of the request for the meeting.

In some cases, MoDOT may be able to determine from the information on the ticket there are no underground utilities in the area that would be affected by the excavation. In these cases, MoDOT must notify the excavator and advise them they are "clear".

If a "No Response" ticket is received, MoDOT is required to respond by marking or making contact with the excavator within two hours. If the "No Response" notification is made before 2 pm, the marking shall be completed that working day. If the "No Response" is made after 2 pm, the marking is to be completed no later than 10 am the next working day.

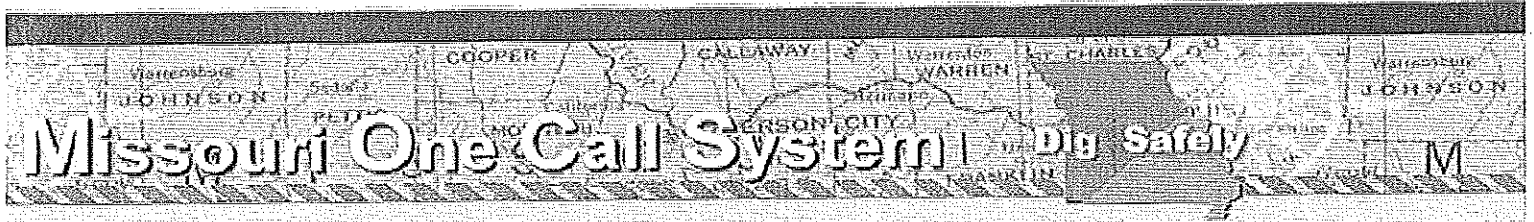
Each ticket MoDOT receives from Missouri One Call Concepts will cost \$1.20. In addition, MoDOT pays an extra 16 cents per ticket for a ticket management system called National Ticket Management System (NTMS) (<http://www.managetickets.com/>) . All costs associated with performing locate requests (ticket cost, labor, equipment, expenses) are to be tracked and charged to job number WS1CALLS.

Requirements

Once a ticket is received, MoDOT has two working days to respond. The date of the call does not count. The two working days shall begin at 12 midnight following the receipt of the request by the notification center. "Working days" do not include weekends and holidays. If a utility has not responded to the locate request, the excavator is required to issue a "No Response" ticket and allow the utilities two hours to respond before beginning excavating. State holidays


(http://www.mo1call.com/about_faq.php#holidays) are not considered working days. The start date of the excavation will be extended when a holiday falls within the utility response time.

There are various methods that can be used to advise the excavator of no facilities in the area. MoDOT may call the contact number of the excavator, leave a message on a recording device, call the cell phone of the excavator, notify the excavator by fax or e-mail, marking the site with "clear" or "OK" or verbally informing the excavator in person.



Retrieved from "http://epg.modot.mo.gov/index.php?title=Category:142_Missouri_One_Call_System"

- This page was last modified on 11 April 2013, at 12:07.

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Department of Transportation
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HOME >> MCS >> RULES AND REGULATIONS

Rules and Regulations

LOOKING FOR OTHER SAFETY INFORMATION? Look to the right. Choose Programs, then click on Safety & Compliance.

Need to see a copy or search various sections of the Federal Motor Carrier Safety, Hazardous Materials Regulations or Missouri rules and regulations? See these links:

Code of State Regulations

Division 265 - Department of Economic Development
 (transferred to Department of Transportation, MCS)
 Chapters 2,4,6,8,9 & 12

Division 265 - Department of Economic Development
 (transferred to Department of Transportation, MCS)
 Chapter 10

Division 25 - Department of Natural Resources
 (transferred to Department of Transportation, MCS)
 Chapters 6 and 11

Division 30 - Department of Public Safety
 (transferred to Department of Transportation, MCS)
 Chapters 6

Division 80 - Department of Natural Resources
 (transferred to Department of Transportation, MCS)
 Chapters 7 and 8

Overdimension/Overweight Load Permit Regulations

Federal Motor Carrier Safety Regulations
 Hazardous Materials Regulation
 Missouri Revised Statutes


One Plate Required of Missouri CMVs

Missouri Revised Statute 301.130 states that commercial motor vehicles shall be registered but only ONE LICENSE PLATE is issued for all but a few exceptions.

This means one license plate suffices for:


- all property-carrying commercial motor vehicles registered above 12,000 lbs.
- all passenger-carrying commercial motor vehicles,
- local transit buses,
- school buses,
- trailers,
- semitrailers,
- motorcycles,
- motortricycles,
- motorscooters, and
- driveaway vehicles

[Click here to read the full text of the statute.](#)

The documents are provided in Acrobat Reader format. Free Acrobat Reader download 

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1-866-831-6277

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Our Mission, Values and Tangible Results
Missouri Highways and Transportation Commission
Career Opportunities

How Do I...

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Adopt a section of highway
View construction projects
Request a highway map
Report a road concern

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Missouri Department of Transportation
Central Office
105 W. Capitol Avenue
Jefferson City, MO 65102
1-888-ASK-MODOT (275-6636)
1-866-831-6277 (Motor Carrier Services)
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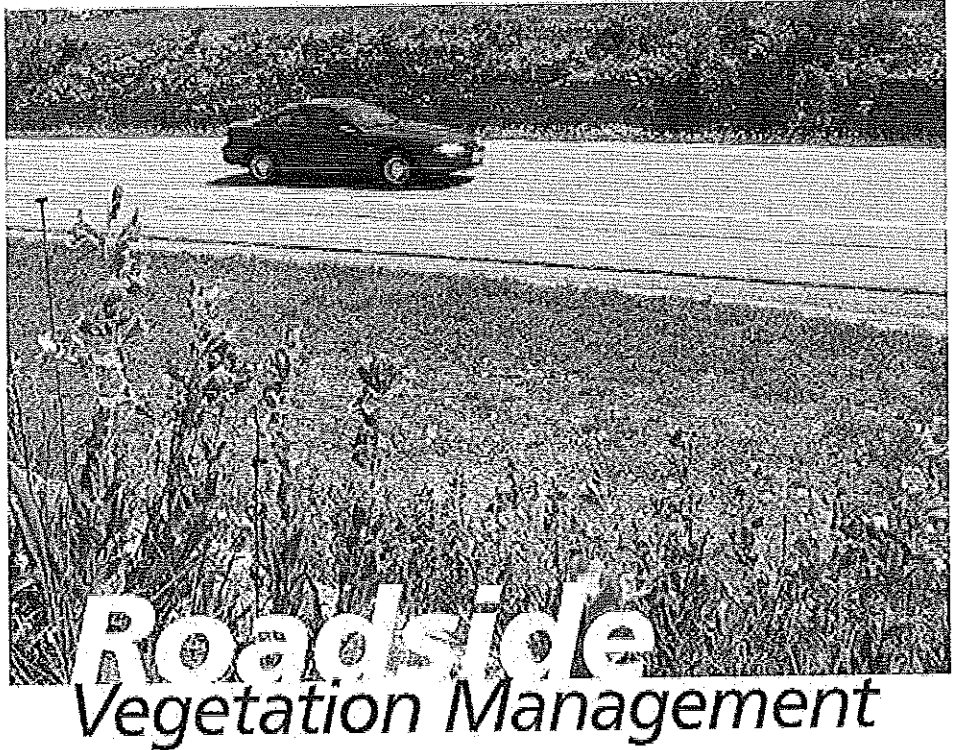
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Category:822 Roadside Vegetation Management

From Engineering Policy Guide

MoDOT's roadside management philosophy is to preserve, enhance and diversify the roadsides of Missouri's transportation system. Our roadside management program helps keep Missouri roadsides safe and attractive. This program establishes and maintains desirable roadside vegetation to control erosion.

This is accomplished through several methods including an effective herbicide program, fertilization, mowing, brush control and litter removal. Wildflower and native grass plantings, landscaping and naturalized vegetation are also part of maintaining and improving safety and roadside appearance. Combining different management practices, such as these, form an Integrated Roadside Vegetation



**SAFETY
BEGINS
WITH ME**

Safety Video

Mowing Safety

(http://epg.modot.mo.gov/documents/132_Mowing_Safety.wmv)

Other Information

Heat Safety (<http://wwwwi.intranet/ri/documents/06-2012.pdf>)

Management (IRVM) program.

The sharing of best practices among districts results in greater efficiency and effectiveness and helps meet the need to operate better, faster and cheaper. Money is saved on labor and mobilization by making mowing a focused priority during scheduled times. Consistency is also improved.

Roadside Vegetation Management Policy

Vegetation in sight distance areas shall be controlled as necessary on all routes.

Equipment shall not be used on slopes steeper than 1V:3H (3 to 1) unless designed for that purpose. Reliable, manufactured slope indicators shall be used on all mowing equipment.

**Printable Version of EPG
822 Roadside Vegetation
Management
Roadside Vegetation
Management**

New trees or hardscape features shall not be permitted within 30 ft. from the nearest traveled way. This distance is extended to 40 ft. on routes with 65-70 mph speed limits. Exceptions may be permitted if behind barriers or if other special circumstances exist.

Vegetation shall be removed that interferes with the visibility of MoDOT signs.

Traffic control shall be performed according to the most recent edition of EPG 616.23 Traffic Control for Field Operations.

Noxious weed control shall be done on all routes, as required by federal, state and county laws and regulations. Noxious weed control shall be by either chemical or biological means.

Vegetation management practices shall not conflict with efforts to protect state and federally designated endangered species. Refer to Heritage Database Information (http://epg.modot.mo.gov/index.php?title=171.6_Roadsides#RDS.28A4.29_Heritage_Database_Information_.28HDI.29) . Contact the Design Division's Environmental Section at (573) 751-2876 for assistance.

Required mowing on major roads shall be completed before Memorial Day and mid-July. The final mowing shall begin in mid-September.

Final mowing shall be completed by November 30.

Design Aspects of Mowing

Mowing should be specified for projects requiring significant mowing during construction. The project core team, with significant input from district Maintenance, should determine which projects will require mowing during construction. The district should include in the proposal the job special provision titled "Mowing", JSP-00-11

Roadside Inventory, Environmental

Report 2005

(<http://library.modot.mo.gov/RDT/reports/Ri01007/or06005.pdf>)

Report 2004

(<http://library.modot.mo.gov/RDT/reports/Ri01007/Stat2004.pdf>)

See also: Innovation Library

(<http://www.modot.gov/services/OR/byDate.htm>)

(https://spexternal.modot.mo.gov/sites/de/_layouts/15/WopiFrame.aspx?sourcedoc=%2Fsites%2Fde%2FJSP%2FJSP0011%2Edoc&action=view&source=https%3A%2F%2Fspexternal%2Emodot%2Emo%2Egov%2Fsites%2Fde%2FJSP%2FForms%2FJSPByTitle%2Easpx%3FGroupString%3D%253B%2523Non%2520Standard%253B%2523%26IsGroupRender%3DTRUE) . This special provision specifies mowing the entire project limits, but if only specific areas are to be mowed, the designer needs to specify those locations in the special provision. Specific locations to be mowed and approximate number of mowings should be coordinated with district Maintenance.

Articles in "822 Roadside Vegetation Management"

The following 10 pages are in this category, out of 10 total.

8

8 cont.

8 cont.

(as of mid-2012)

EPG 822 presents the very latest guidance and this pdf file of EPG 822 through EPG 822.6 may be helpful for those wanting to easily print the Roadside Vegetation Management information.

- 822.1 Vegetation Management for Major Roads
- 822.2 Vegetation Management for Minor Roads
- 822.3 Vegetation Management for High Profile Areas
- 822.4 Best Practices
- 822.5 Recommended Practices
- 822.6 Definitions
- 822.7 Hay and Other Crops on the Right of Way
- 822.8 Maintenance Planning Guidelines for Mowing Operations
- 822.9 Maintenance Planning Guidelines for Brush Cutting
- 822.10 Maintenance Planning Guidelines for Tree Removal

Retrieved from "http://epg.modot.mo.gov/index.php?title=Category:822_Roadside_Vegetation_Management"

- This page was last modified on 12 May 2015, at 09:43.

Radiation Management

Welcome to the Radiation Management Page



**** Read The Latest NRC Enforcement Actions ****

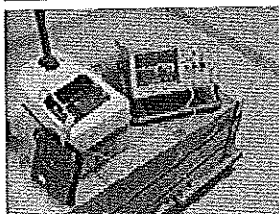
Radiation Management-Central Laboratory
1617 Missouri Blvd -Rm 160C-Jefferson City, Mo.65109
24 hour RSO Cell (573) 751-1132
RSO Office (573) 526-4628

Learn More



*Reporters &
Media*

Repair/Maint



*Do you need a gauge
repaired, probe inspections
or calibrated?*

Check this out.

Safety Team



*Support Center and
District Staff to serve you.*

Gauge Accountability



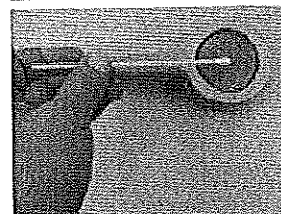
*This page give you the latest
gauge assignments, index,
inventory, leak test, probe
inspections and more.*

NMSS Letters



*This page links you to the
NRC Quarterly Newsletters*

Leak Tests Procedures



Special Form Certificate	Gauge Certificates	Federal Regulations	Training Dates/Records
Transport Papers 3241 3430 3440	Materials License	NMSS Newletters	Transportation Guide
Survey Meter Calibrations	Block Certificate	Source Certificates 3241 3430/40	Training Manuals

Office

Machines shall never be cleaned or adjusted while in motion. Sharp burrs should be immediately removed from any machine, cabinet, stand or furniture.

Caution should be exercised when opening file drawers to prevent tipping. File and desk drawers should be pushed back into place before leaving the files and desks.

Guards on paper cutters shall always be in place when the machine is being used.



Safety > Operations Safety Review: New Item

Operations Safety Review	
Missouri Department of Transportation	
Modified May 2013	
<div>Save</div> <div>Save as Draft</div>	
Reviewer (This should be the Lead Reviewer. The person in this field will receive a copy of the system generated email.)	<input type="text"/>
Reviewer's Team Members (This should be any additional Reviewers. The persons in this field will NOT receive a copy of the system generated email.)	<input type="text"/> Please separate names by a semi-colon (;)
District being Reviewed	<input type="text"/>
Division being Reviewed	<input type="text"/>
County being Reviewed	<input type="text"/>
Review is being Performed on:	
Facility <input type="checkbox"/>	Or Work Zone <input type="checkbox"/>
Facility being Reviewed	<input type="text"/>
Work Zone being Reviewed	<input type="text"/>
Route being Reviewed	<input type="text"/>
Date of Review	<input type="text"/>
I AM SAFE	
Body Position Field - ID Hazardous Lifts: >75# lifts, twisting, reaching and one-arm swing lifts. Recommend control measures: Power lift, 2-man lifts, utilizing tools, etc. Office -- Discuss repetitive motion, eye strain, minimal physical activity, hazardous lifts, etc.	<input checked="" type="checkbox"/>
PPE High visibility apparel, Hard hat, Footwear, Safety glasses/goggles/face shield, Hearing protection, Fall protection, Hand protection... Appropriate type for job, worn correctly, etc. Visibility and condition.	<input checked="" type="checkbox"/>
Close Calls Discuss whether close calls have occurred and what were the root causes.	<input checked="" type="checkbox"/>
WHAT I USE IS SAFE	
Equipment Damage Repaired & Preventive Maintenance Field - Equipment parked to release stored energy (ie. Bucket down, brake applied, plow down, etc.) hydraulics, fleet lighting, tires, oil changes, pre and post trips conducted, guards in place, slope indicators, backup alarms audible, etc. Office -- Fire extinguishers charged, chairs, desks, tables, computers, printers, calculators, file cabinets, etc. stable and in good working order.	<input checked="" type="checkbox"/>
Small Tools/Power Tools Condition, appropriate use, locked-out, handles, cords, safety guards in place, power actuated tools unloaded (bled off/disconnect), etc.	<input checked="" type="checkbox"/>
Electrical	<input checked="" type="checkbox"/>

Extension cords not worn/cut, temporary use only, grounded, GFCI, not used near water, etc.		
Fleet Lighting Is fleet lighting in proper working order? Does fleet lighting meet the minimum recommended level for the equipment? Is fleet lighting excessive for conditions?	<input checked="" type="checkbox"/>	
WHERE I AM IS SAFE		
Slip/Fall Analysis Steps/ladders to equipment, fixed/portable ladders, uneven terrain, floors, stairs, items stored on or near the floor, open file drawers, etc.	<input checked="" type="checkbox"/>	
Vehicle Backing Circle checks of vehicles, spotters, pull-forward parking, driver-spotter eye contact, etc.	<input checked="" type="checkbox"/>	
Housekeeping Debris removed, excess materials properly stored, walkways clear from trip hazards, trash cans emptied, storage areas reviewed, conference rooms, sanitary conditions – restroom, kitchen/break areas, etc.	<input checked="" type="checkbox"/>	
Facility Damage Repaired Facilities notified of damaged items and scheduled for repair, garage doors shut, lights function, walking surfaces repaired, etc.	<input checked="" type="checkbox"/>	
Digging Locates called and marked, Confined space?, No entry unless trained at 4', Excavation holes-trenches-cuts over 5 ft. deep shored, sloped or trench box used, etc.	<input checked="" type="checkbox"/>	
Overhead Field - Maintained 10' from power lines and set cone sleeves, lowered buckets, beds and arrow boards before driving, clearance for entering building good, not standing beneath overhead loads, aware of boom location and movement etc. Office – File cabinets, shelf storage, overhead compartments, items above top of cubicles, etc.	<input checked="" type="checkbox"/>	
MY CUSTOMERS ARE SAFE		
Work Zone Field - Efficient traffic flow, DMS board notification, Message boards utilized, sign placement, equipment visibility, employees facing oncoming traffic/or spotter in place, work zone coordinator identified, etc. Office – When travelling through work zones obey speed limit, use extra precautions-watch for workers and equipment, rate work zone, etc.	<input checked="" type="checkbox"/>	
SPCC Review Tank inspection, training up to date and practiced, plan available, containment area drain locked closed, etc.	<input checked="" type="checkbox"/>	
SO WE GO HOME SAFE		
Daily tool Box Talk/Morning Muster Complete	<input checked="" type="checkbox"/>	

Field - Relevant to day's work, risks and hazards identified, recommended control measures discussed, assignments of employees' duties.		
Office - Fire/Tornado evacuation process/location, fire extinguisher location, first aid location, prepared for inclement weather during travel, etc.		
Employee Involvement	<input checked="" type="checkbox"/>	
Suggestions/participation, actively watching out for coworkers safety, teamwork, volunteering, aware of coworker expected arrival/location etc.		
Risk based Assessments - Maintenance and Traffic	<input checked="" type="checkbox"/>	
ADDITIONAL COMMENTS 		
Attachments Click here to attach a file		
<div> <div>Save</div> <div>Save as Draft</div> </div>		

Driver's Qualifications and Responsibilities



All operators of department owned, leased or rented motor vehicles and equipment must comply with the following:

1. All employees must have a valid operator's or commercial driver's license (CDL) with them while driving.
2. All use of state-owned or leased vehicles must be authorized by the department.
3. Employees shall notify his/her supervisor immediately when he/she is lawfully prescribed drugs that may impair his/her work performance. If an operator feels temporarily impaired due to illness or from taking medication and is physically unable to safely operate a motor vehicle, they shall report their condition immediately to their supervisor.
4. Employees shall not wear headsets or earphones for the purpose of listening to the radio or music while operating a vehicle, equipment or flagging.
5. Operators and all passengers shall properly wear their seat belts at all times while in department or non-department equipment or vehicles.
6. All employees shall use three points of contact, facing towards the vehicle, when entering and exiting a truck, motograder, loader, etc.
7. It is the driver's responsibility to see that passengers are seated and no part of their body projects over the side of the vehicle. Never permit riding on bumpers, the hood, fenders running boards or allow passengers to jump on or off moving or stationary vehicles or equipment. Crowded front seats or cabs may interfere with the driver and should be avoided. There shall be no more people riding in a vehicle than there are seat belts available.
8. In case of an incident, the employee shall immediately inform the supervisor and, in turn, notify Risk Management and complete the required paperwork. Glove compartments in MoDOT vehicles should contain information on what to do in case of an incident.
9. Operators shall make a pre-trip inspection of all Commercial Motor Vehicles (CMV) before use. Supervisors and operators will be held accountable for conducting pre-trip inspections for the CMV fleet. Employees should document and report any deficiencies to the direct supervisor who should in turn notify the equipment technician. For a complete list of components to be inspected, refer to Missouri's Commercial Driver's License Manual or the appropriate equipment training manual.
10. Operators of non-commercial motor vehicles and equipment shall ensure routine maintenance is conducted in accordance with General Service's maintenance schedules. Visually inspect these vehicles and equipment and report any damage or deficiencies to their supervisor, appropriate mechanic and General Services Manager.
If an employee is unable to perform or safely perform his/her essential work tasks of his/her job, the department may conduct a Fit for Duty Review. This is to assess an employee's ability to perform and/or safely perform the essential work tasks of his/her position.

■ **Refer to HR Personnel Policy 0602 Fit for Duty Review for more information.**

■ Reminder: HR Personnel Policy 2511 Alcohol Testing Program requires operators to report alcohol use (includes over-the-counter cold remedies containing alcohol) within 4 hours of driving.

■ HR Personnel Policy 2500 Standard Rules of Conduct, Policy 2507 Drug Free Workplace and Policy 2508 Drug Testing Program should be referred to for specific information of when to report medication use to your supervisor.

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Overhead Power Lines	
	<u>Effective</u>	February 1, 2014	
	<u>Supersedes</u>	101 Electrical Safety, July 1, 2011	

POLICY STATEMENT

Overhead power lines shall be considered energized until the utility company indicates otherwise. Work activities should be planned to keep a minimum distance of 10 feet from an overhead power line.

DEFINITIONS

1. Authorized Employee – Identified by Department head as having appropriate training and PPE (i.e. Signal Electrician, Facility Maintenance) for working around electricity.
2. PPE – Personal protective equipment

POLICY REQUIREMENTS

1. Employees shall consider all overhead lines to be energized until the utility company indicates otherwise.
2. When a minimum distance of 10 feet cannot be maintained, employees should:
 - a. Have the utility company shut down or insulate the line where practical.
 - b. When operating equipment with elevated beds, booms, etc., employees should use a spotter when one is available.
 - c. Ensure work is performed by authorized personnel only.
3. When downed power lines are identified employees should:
 - a. Call utility company and law enforcement
 - b. Do not drive over a downed power line until line is confirmed dead by utility.
 - c. Do not move downed power line by hand or other means (stick, shovel, etc.) until line is confirmed dead by utility.
 - d. Do not touch people and/or equipment that are in contact with a downed power line until the power line is confirmed dead by the utility.

PROCEDURES

1. Prior to operation, overhead utility lines should be located and marked. Marking may include cones, trim lines, cone with sleeves, etc.

2. Operators of aerial trucks and equipment shall watch for overhead utilities, prior to raising, lowering, or swinging the bucket or boom. When multiple utility lines are present a spotter should be used if one is available.
3. Vehicles equipped with booms shall have the boom lowered and secured before moving the vehicle.
4. Work involving elevated dump beds with overhead utility lines present shall have a designated spotter in addition to the marking of the lines.
5. Employees involved in an incident that results in their vehicle coming into contact with a downed power line should not get out of their vehicle unless it is on fire. If the vehicle is on fire:
 - a. Do not touch the ground and the vehicle at the same time. Do your best to jump clear of the vehicle and land with both feet together.
 - b. Next, shuffle or hop away from the vehicle, keeping both feet close together, to minimize the path of electric current and avoid electric shock.

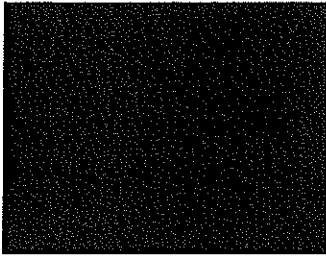
TRAINING

1. Gear Up - Basic Safety Training (LMS code 24492) to be completed within first week of hire.
2. Additional training available - Electrical Safety , awareness only (LMS code 24548)

CROSS REFERENCES

1. OSHA 1926 Subpart K - Electrical
2. Missouri Statutes 319.075 to 319.090 - Overhead Power Line Safety Act

5. Personal Flotation Devices [29CFR 1926.106(a)] MoDOT employees who are unable to comply with the department's fall protection requirements while working over a body of water or on a floating platform (e.g., boat, barge, etc.) in the water or performing an activity where a drowning potential exists shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests. Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.



F. Poisonous Plants

The poison ivy plant should be recognized and avoided by employees. Employees who are allergic to this plant should exercise caution in locations where these plants may be present. Post-exposure treatments are available through the Distribution Center.

Poison Ivy Descriptions:

Leaves: Grow in groups of three; leaflets are not lobed; dark green in summer, scarlet and orange in fall.

Berries: White and waxy in appearance.

Growth Form: Woody vine is most typical form; also grows as shrubs.

Habitat: Grows in, on or near trees often found along fence rows.

Allergic reactions can occur by all of the following:

1. Direct contact with any part of the poison ivy plant at any time of the year.
2. Smoke drifting from burning ivy foliage.
3. Tools that have been in contact with the plant should be cleaned immediately after use.
4. Contaminated clothing.
5. Growth of poison ivy around buildings and storage areas should be treated with herbicides and removed.
6. Remember to use non-abrasive soap when washing the affected area.

Chapter : 1 Safety Policies

Section: 107 Prescription Safety Eyewear

Sub- Section:

Policy/Procedure #:

Effective Date: 10/16/2009

Supersedes: NA

Dated: 01/01/2007

INTRODUCTION

The purpose of the Prescription Safety Eyewear Policy/Program is to improve the work environment, reduce eye injuries and provide safety sensitive employees who require prescription eyewear, with a simple and economical method for purchasing quality prescription safety eyewear.

POLICY

All Safety Sensitive, Full Time Employees, who require prescription eyewear, that are routinely exposed to flying debris or other eye hazards are eligible to participate in the Prescription Safety Eyewear Program. All other employee's (i.e. part-time, seasonal, non-safety sensitive etc.) participation shall be at the District's discretion and determined on a case-by-case basis.

Acceptable prescription safety eyewear shall meet or exceed the ANSI Z87.1-2004 (American National Standard for Personal Protective Eyewear) Standard.

Work activities which require protective eyewear may include, but not limited to:

- Working on or under equipment
- Grinding
- Mowing
- Cutting
- Jack hammering
- Laboratory work
- Sandblasting
- Brush cutting/chipping
- Working with hazardous materials
- Mine and quarry inspections

Any questions concerning which job titles are eligible to participate in the Prescription Safety Eyewear Program, shall be directed to the District Safety and Health Manager or a Safety Officer, who can make that determination by conducting a hazard assessment.

PRESCRIPTION SAFETY EYEWEAR SUBSIDY

All employees who are required to wear prescription eyewear and whose work activities require them to wear protective eyewear are eligible for the prescription safety eyewear subsidy every other calendar year.

Employees will receive a bi-annual (every two years) amount that will be determined based on contractual agreement for prescription safety eyewear. The one time, every two year reimbursement requires that prescription safety eyewear purchased meets ANSI Z87.1-2004 Standard, (**permanently** mounted side shields) and meet specifications outlined in the Safety Policies, Rules and Regulations Employee Handbook. The employee shall pay any costs incurred over the contractual amount. Eye exams costs are the sole responsibility of the employee and are not included as a part of the contractual amount.

Rollover of subsidies will not be permitted.

Purchasing

Purchases for the Prescription Safety Eyewear Program shall be made only through the awarded program vendor and the network of providers. A list of local providers will be provided to all supervisors.

Voucher purchases will not be allowed for this program.

Employees shall:

- Ensure all purchased prescription safety eyewear meets or exceeds the ANSI Z87.1-2004 standards
- Ensure items purchased have **permanently** mounted side shields
- Wear protective eyewear during working hours as applicable.
- Maintain and follow the manufacturer's care instructions for their prescription safety eyewear.

Supervisor shall:

- Review and implement the prescription safety eyewear policy with employees as it applies to their work activities.
- Inform employees of the procedure to follow for purchasing prescription safety eyewear.

- Verify purchased prescription safety eyewear is the appropriate type and complies with ANSI Z87.1-2004
- Assure compliance of the Prescription Safety Eyewear Policy.
- Ensure that the protective side shields remain on the employee's prescription safety eyewear and that employees wear them when applicable.

District Safety Personnel shall:

- Develop and maintain a master list of all District and Central Office employees eligible for the prescription safety eyewear subsidy.
- Coordinate the record keeping and reimbursement for employees receiving a subsidy with the Controller's Support Office.
- Notify appropriate District and Central Office personnel of the Prescription Safety Eyewear Policy.
- Perform hazard assessments to determine who is eligible to participate and the type of protective eyewear needed.

Refueling Motor Vehicles

Equipment should not be running while vehicles are being refueled. The nozzle of the fuel hose shall be kept in direct contact with the tank to guard against the ignition of the fuel by static electricity.

Smoking is prohibited within fifty (50) feet of any fuel dispensing area. The two-way radio and cell phones should be turned off while the vehicle is being refueled.

The vehicle must be attended while fueling.

Chapter : 1 Safety Policies

Section: 109 Respiratory Protection

Sub- Section:

Policy/Procedure #:

Effective Date: 07/01/2011

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1.0 PURPOSE

Missouri Department of Transportation (MoDOT) is committed to providing and maintaining a safe and healthy work place for all our employees. Some employees have work assignments that may involve exposure to airborne contaminants. To assure that employees are protected against these contaminants, MoDOT has developed and implemented this program for the proper selection, use, maintenance, and care of respiratory protective equipment.

Although not specifically regulated by the United States Occupational Safety and Health Administration (OSHA), MoDOT is committed to provide a high level of worker protection to ensure a healthy working environment. Therefore, this program is based on OSHA respiratory protection requirements found in 29 CFR 1910.134 and 29 CFR 1926.103.

2.0 SCOPE

This program applies to all MoDOT employees who may be required to wear respirators for protection against airborne contaminants. Employees who may be required to wear respirators include:

Department	Job Classification	Typical Work Tasks (requiring respirators)
District/Regional/CO Bridge Maintenance	All Titles	Sandblasting, sawing patches, painting, welding/cutting/brazing, paint preparation, mudjacking, handling dry cement, fine debris/dust removal, jack hammering, inspecting confined spaces & others as directed by MSDS
Materials Lab	Job titles that expose the employee to respiratory hazards	Using and handling chemicals
Environmental	Job titles that expose the employee to respiratory hazards	Inspecting confined spaces
Other	Various i.e. full time welders, asbestos/lead abatement, painting applications, concrete repair	As identified through hazard analysis and periodic testing.

(Note that various tasks, such as concrete repair, where the use of engineering and administrative controls are not as effective will be subject to the policies and procedures within this program. In an effort to reduce the financial impacts of this program, non-routine or non-essential tasks should be outsourced, i.e., painting vehicles, working in confined spaces).

Since MoDOT employees may encounter a wide variety of hazardous chemicals and exposure situations at work sites, the need for respiratory protection on a particular project or work site must be identified by the Central Office Risk & Benefits (CO), Supervisor, or District Safety Health Manager (DSHM) and Safety Officer using the following types of information:

- Information and recommendations contained in Material Safety Data Sheets (MSDSs)
- Results of previous air monitoring
- Results of measurements made with direct-reading instruments
- Safety rules and respiratory protection requirements as required and established for each work site through the scope of work.

3.0 DEFINITIONS

The following important terms used in this program and/or the OSHA Respiratory Protection Standard are defined.

Air-purifying respirator (APR) - a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Atmosphere-supplying respirator - a respirator that supplies the respirator user with breathing air from a source that is independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge - a container with a filter, sorbent, or catalyst, or any combination of these items, that removes specific contaminants from air that is passed through the container.

Contaminant - any harmful, irritating, or nuisance airborne material.

Continuous flow respirator - an atmosphere-supplying respirator that provides a continuous flow of breathing air to the respirator facepiece.

Demand respirator - an atmosphere-supplying respirator that admits breathing air to the respirator facepiece only when a negative pressure is created inside the facepiece by inhalation.

Disposable respirator - a respirator that is designed to be discarded after single or limited use.

Emergency situation - any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in a significant uncontrolled release of an airborne contaminant.

Employee exposure - exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-of-service-life indicator (ESLI) - a system that warns the respirator user of the approach of the end of adequate respiratory protection (e.g., that the sorbent is approaching saturation or is no longer effective).

Face-to-face piece seal - the seal between the wearer's face and the sealing surface of a tight-fitting facepiece.

Filter - a component used in air-purifying respirators to remove solid or liquid aerosols from the inhaled air (also referred to as the air purifying element).

Filtering facepiece (dust mask) - a negative pressure air-purifying particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit factor (FF) - a quantitative estimate of the fit of a particular respirator to a specific individual (typically estimates the ratio of the concentration of a test substance in ambient air to its concentration inside the respirator facepiece when worn).

Fit test - the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator facepiece to an individual's face (i.e., the face-to-facepiece seal).

High efficiency particulate air (HEPA) filter - a filter that is at least 99.97% efficient in removing mono-disperse particles of 0.3 micrometers or larger in diameter from contaminated air.

Immediately dangerous to life or health (IDLH) atmosphere - an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Loose-fitting facepiece - a respirator facepiece that is designed to form a partial seal with the face.

Negative pressure respirator - a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

NIOSH-certified respirator - a respirator certified by the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11 or 42 CFR Part 84.

Oxygen-deficient atmosphere - an atmosphere with an oxygen content below 19.5% by volume.

Positive pressure respirator - a respirator in which the pressure inside the facepiece exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator (PAPR) - an air-purifying respirator that uses a blower to force ambient air through the filter to the facepiece.

Pressure demand respirator - a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece whenever the positive pressure is reduced inside the facepiece by inhalation.

Qualified Health Professional (QHP) - an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required for medical evaluation of respirator users.

Qualitative fit test (QLFT) - a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative fit test (QNFT) - an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator facepiece.

Respirator - a device designed to protect the wearer from the inhalation of hazardous atmospheres.

Self-contained breathing apparatus (SCBA) - an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service life - the period of time that a respirator, filter, sorbent, or other respiratory equipment provides adequate protection to the wearer.

Sorbent - the material inside a respirator cartridge or canister that adsorbs gases and vapors from ambient air.

Supplied-air respirator (SAR) - an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user (also called an airline respirator).

Tight-fitting facepiece - a respirator facepiece that is designed to form a complete seal with the face.

User seal check - an action performed by the respirator user to determine if the respirator is properly sealed to the face.

4.0 RESPIRATOR POLICIES

When feasible, effective engineering controls should be implemented to eliminate or reduce employee exposures to harmful dusts, fumes, sprays, mists, fogs, smoke, vapors, or gases to below the OSHA Permissible Exposure Limits (PELs) and provide acceptable breathing air in potentially oxygen-deficient atmospheres.

However, when engineering controls are not effective in controlling toxic substances or oxygen-deficient atmospheres, while engineering controls are being instituted, or when required by government regulations, or Site Safety and Health Plans, MoDOT will provide appropriate respiratory protection, training, fit testing, and medical evaluations to the affected MoDOT employees. The provisions of this program and related requirements of the OSHA Respiratory Protection Standard shall govern all use, maintenance, and care of respiratory protective equipment.

Employees required to use respiratory protection because of exposure to toxic materials will do so as a condition of employment. Employees must use and maintain the respiratory protection given to them according to the instructions and training provided. Employees must guard against damage to their respirators and immediately report any malfunction of their respirators to their supervisor.

All affected MoDOT personnel must comply with the requirements of this program at all times. Failure to do so will result in disciplinary action and up to termination.

5.0 STANDARDS AND GUIDELINES

Standards and guidelines governing the development of this program and referenced herein include, but are not limited to, the following:

- OSHA Respiratory Protection Standard (29 CFR Part 1910.134 and 29 CFR 1926.103) and/or state equivalent
- OSHA Access to Employee Exposure and Medical Records Standard (29 CFR Part 1910.1020) and/or state equivalent
- ANSI/CGA Commodity Specification for Air (G-7.1-1989)
- DOT Shipping Container Specification Regulations (49 CFR Part 173 and Part 178)
- NIOSH Respirator Certification Standards (30 CFR Part 11 and 42 CFR Part 84)
- OSHA Medical Surveillance Guidelines (1910.1025 App. C)
- MoDOT Lead Safety Guidelines
- OSHA Lead Standards (29 CFR 1910.1025 and 29 CFR 1926.62)
- MoDOT Confined Space Program

6.0 PROGRAM RESPONSIBILITIES

The following individuals and/or positions have responsibilities for development and implementation of MoDOT's Respiratory Protection Program.

6.1 CENTRAL OFFICE RISK & BENEFITS (CO)

MoDOT's Central Office Risk & Benefits (CO), as designated by RB Director) is responsible for the following:

- MoDOT's CO is designated as the Respiratory Protection Program Administrator
- The CO will oversee MoDOT's Respiratory Protection Program and implement procedures for the evaluation of program effectiveness
- Developing, reviewing, and updating MoDOT's written Respiratory Protection Program
- Maintaining a master copy of the Respiratory Protection Program

- Making the program available to all Safety and Health Managers, Supervisors, and affected employees
- Coordinate and assist with the scheduling of medical evaluations for all required employees who use respirators
- Maintaining records of medical evaluations for respirator use
- Assist in determining the need for respiratory protection on a given project or work site
- Assist in monitoring workplace conditions to ensure that the respiratory protection being used offers adequate protection for employees from respiratory hazards
- Communicate any medical limitations or restrictions to the districts

6.2 SUPERVISORS

Department Supervisors are responsible for the following:

- Ensuring that employees are aware and have access to the up-to-date Respiratory Protection Program
- Ensuring that any medical limitations or restrictions on respirator use by employees are followed
- Ensure that fit test are performed properly
- Ensuring that the appropriate respirators are used and maintained properly in the field
- Correcting any significant problems reported by employees regarding respirator use, maintenance, or care
- Provide appropriate respirators to employees
- Ensure all used cartridges are properly disposed of
- Monitoring workplace conditions to ensure that the respiratory protection being used offers adequate protection for employees from respiratory hazards

6.3 DISTRICT SAFETY & HEALTH MANAGERS (DSHM)

Safety & Health Managers are responsible for day-to-day implementation of the Respiratory Protection Program This includes the following:

- Day-to-day implementation of RPP
- Developing, reviewing, and updating MoDOT's written Respiratory Protection Program
- Communicating information about the need for respiratory protection to all MoDOT employees
- Assist in coordinating the scheduling of medical evaluations for all required employees who use respirators
- Assist in providing the proper paperwork to employees prior to their evaluations
- Ensuring that medical determinations are received for all employees who were evaluated
- Determining the need for respiratory protection
- Developing a list of approved respirators to be used by employees
- Assisting Supervisors in the selection of appropriate respirators
- Ensuring that any medical limitations or restrictions on respirator use by employees are followed
- Ensuring that all respirator users are fit tested before they use a respirator and at least annually thereafter
- Ensuring that all respirator users receive adequate training on respirator use, maintenance, and care
- Maintaining records of respirator training through LMS
- Maintain records of fit testing
- Ensuring that respirators are used and maintained properly in the field

- Monitoring workplace conditions to ensure that the respiratory protection being used offers adequate protection for employees from respiratory hazards
- Correcting any significant problems reported by employees regarding respirator use, maintenance, or care
- Ensuring that employees are aware and have access to the up-to-date Respiratory Protection Program
- Reporting problems with implementation of the program to the Program Administrator

6.4. MoDOT EMPLOYEES

All MoDOT employees who use respiratory protection are responsible for the following:

- Using the respirators they are issued according to the instructions and training provided
- Complying with all applicable provisions of MoDOT Respiratory Protection Program including proper maintenance, cleaning, inspection, storage, care and disposal of their respirators
- Notifying their supervisor of any change/need for a new fit test
- Notifying their supervisor if field conditions change

7.0 MEDICAL EVALUATION OF RESPIRATOR USERS

MoDOT must determine that an employee is both physically and psychologically capable of wearing respiratory protection prior to assignment to a project or work site that requires it. Medical evaluations for respirator users are included as part of the MoDOT Medical Surveillance Program. This program is coordinated at each location by the DSHM with input as established by the CO.

7.1 GENERAL REQUIREMENTS

Before any MoDOT employee will be required to use a respirator at a work site or be fit tested, he/she must receive and successfully complete a medical evaluation to determine his/her ability to use a respirator. Medical evaluations will be performed during normal working hours by a Qualified Health Professional (QHP) and will consist of a medical questionnaire (see Appendix C of the OSHA Respiratory Protection Standard) and an initial medical examination. All medical evaluation information will be considered confidential. Employees will be given an opportunity to discuss results with a QHP.

It is MoDOT policy that employees using a respirator must be medically evaluated at least annually for their ability to use respiratory protection.

7.2 MEDICAL DETERMINATION

The Administrator is responsible for ensuring that the QHP provides a written recommendation regarding the employee's ability to use a respirator (i.e., the QHP or designated service company's Medical Clearance Summary form). This recommendation shall be communicated to the employee's Supervisor who is responsible for ensuring that any limitations or restrictions on respirator use are followed.

The QHP recommendation shall provide the following information:

Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.

If the respirator is a negative pressure respirator and the QHP finds a medical condition that may place the employee's health at increased risk if the respirator is used, the employer shall provide a PAPR if the QHP's medical evaluation finds that the employee can use such a respirator; if a subsequent medical

evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer is no longer required to provide a PAPR.

All MoDOT employees who use respiratory protection are required to have medical evaluations every year unless deemed otherwise by a medical professional or situations requiring more frequent evaluations. Refer to OSHA Medical Surveillance Guidelines App. C II

8.0 ISSUANCE AND TESTING OF RESPIRATORS

Supervisors, with input from the DSHM are responsible for ensuring that the appropriate type of respiratory protection is provided for MoDOT employees when required. Respiratory protection may be required by one or more of the following:

- OSHA Regulations
- Site Safety and Health Plans
- PPE Hazard Assessments
- Material Safety Data Sheets (MSDS)
- Requirements at a client facility

The Supervisor and DSHM at each MoDOT office will develop a list of respirators issued to employees and include the list as an attachment to this program. This list will include:

- Respirator manufacturer and model information (e.g., MSA Comfo Classic)
- All filters, cartridges, and/or canisters that may be used with each respirator (e.g., HEPA filters)
- Situations, conditions, contaminants, projects, or specific job sites where each respirator and filter, cartridge, or canister are required to be used (e.g., asbestos projects)

Note: Air-purifying respirators for routine use must be individually issued and not shared between several users. Atmosphere-supplying respirators will not normally be issued to individuals, but will be maintained according to the requirements of this program by the DSHM.

8.1 EQUIPMENT CERTIFICATION

All respirators, filters, cartridges, and other respiratory protection equipment purchased by MoDOT and used by MoDOT employees must be certified by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11 or 42 CFR Part 84. NIOSH approval labels on filters, cartridges, and canisters must remain legible.

8.2 FIT TESTING

All employees required to wear negative or positive pressure tight-fitting respirators must be fit-tested prior to use. This requirement applies to both air-purifying respirators and atmosphere-supplying respirators. Employees must be fit tested with the same make, model, style, and size of respirator that they will use.

Only approved/qualified trainers will administer fit tests. These individuals must be certified to perform fit testing. The DSHM is responsible for ensuring that all employees who wear respirators are fit tested at the frequencies specified in Section 8.2.3.

8.2.1 Qualitative Fit Testing

Qualitative fit testing (QLFT) may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less. QLFTs must be administered using the procedures specified in Appendix A, Fit Test Procedures. Approved sensitivity solutions for QLFT included the following:

- Bitrex™ (denatonium benzoate) solution aerosol protocol (Note: This protocol must be used with caution to avoid unnecessary skin contact with the Bitrex™ solution.)

Note: Bitrex is the preferred method but Isoamyl acetate (banana oil) and Saccharin can be used. Irritant smoke will not be utilized.

8.2.2 Quantitative Fit Testing

Quantitative fit testing (QNFT) must be used to fit test negative pressure air-purifying respirators that must achieve a fit factor greater than 100. The following criteria determine if an individual passes a QNFT:

- Tight-fitting half facepieces must achieve a minimum fit factor of 100.
- Tight-fitting full face pieces must achieve a minimum fit factor of 500. QNFTs must be administered using the procedures specified in Appendix A. OSHA-approved protocols for QNFT included the following:
 - Generated aerosol protocol
 - Ambient aerosol condensation nuclei counter (CNC) protocol (Note: TSI Portacount® or Portacount® Plus units use this protocol.)
 - Controlled negative pressure protocol

Note: We will not be utilizing this fit testing method but added this just for your information.

8.2.3 Frequency of Fit Testing

Employees must be fit tested using an appropriate QLFT or QNFT protocol before they are assigned to a project or work site where respiratory protection is required. Fit testing may only be done after the employee has been medically evaluated according to Section 7 of this program. Fit testing will be repeated at least annually (or more often if any of the conditions listed below occur).

QLFT or QNFT will be repeated immediately whenever the employee has any of the following:

- A weight change of 20 pounds or more
- Significant facial scarring in the area of the face piece seal
- Significant dental changes (e.g., multiple tooth extractions without a prosthesis or acquiring dentures)
- Reconstructive or cosmetic facial surgery
- Any other condition that may interfere with face piece sealing

8.3 PROCEDURES FOR IDLH ATMOSPHERES

MoDOT employees are strictly prohibited from entering atmospheres that are or have the potential for becoming IDLH except as provided in MoDOT Permit-Required Confined Space Policy and MoDOT Hazardous Waste Operations and Emergency Response Policy. Contact the DSHM for assistance.

9.0 TRAINING

Training is required for those who are required to wear respirators as discussed in section 2.0. Trained employees should have knowledge and proficiency with respect to the proper use, limitations, maintenance, and care of the respirator(s) to be worn.

9.1 FREQUENCY OF TRAINING

All employees who are required to use a respirator must be trained prior to any respirator use or as deemed necessary by the DSHM.

9.2 VOLUNTARY USE

Voluntary use will be addressed on a case-by-case basis. If an employee feels more comfortable wearing a respirator, he or she is subject to follow this program, but is not subject to medical evaluations unless a job safety analysis has deemed it necessary.

10.0 RECORDKEEPING

MoDOT (or an authorized representative) must maintain certain information regarding employee medical evaluations, training, and fit testing, and the Respiratory Protection Program.

10.1 MEDICAL EVALUATION RECORDS

Records of medical evaluations required by this program must be retained and made available to employees.

10.2 TRAINING RECORDS

Verification of employee training such as sign-in logs will be maintained through LMS. Copies of employee quizzes administered during the training should be kept on file by the DSHM for at least three years from the date of the training. All training logs must be dated and indicate the instructor, training topic, materials used for the training, and the names and ID numbers of all attendees.

10.3 FIT TESTING RECORDS

The DSHM will coordinate a record of the qualitative and quantitative fit tests administered to all employees at that office. These records should be kept on file at least until the next successful fit test is administered (i.e., no longer than one year later). When performing fit testing use the forms in Appendix A, E & F.

Fit testing records will include:

- Name and ID number of the employee tested
- Type of fit test performed (i.e., QLFT or QNFT) and the specific protocol used
- Specific make, model, style, and size of respirator tested
- Date of the test
- Pass/fail results for QLFTs or the overall fit factor for QNFTs (Note: Strip chart records for QNFTs should also be retained if available.)

10.4 RESPIRATORY PROTECTION PROGRAM

MoDOT Respiratory Protection Program will be made available to all employees. A master copy of the program will be maintained and updated as necessary by CO Safety and Health.

11.0 USE OF RESPIRATORS

11.1 FACIAL HAIR

MoDOT employees who wear respiratory protection are not permitted to have any facial hair that comes between the face-to-face piece-sealing surface or that interferes with the function of the inhalation or exhalation valves whenever they wear their respirators. This includes beards, goatees, and mustaches longer than the corner of the mouth for half face respirators and beards, goatees, and wide sideburns for full face piece respirators. The entire face-to-face piece sealing area must be clean-shaven.

Employees who are not clean-shaven will be required to shave prior to using their respirator.

11.2 SAFETY GLASSES AND OTHER PERSONAL PROTECTIVE EQUIPMENT

Employees who are required to wear safety glasses, chemical splash goggles, or other personal protective equipment in combination with half face respirators must ensure that they are worn in a manner that does not interfere with the face-to-face piece seal of the respirator.

11.3 CORRECTIVE LENSES

A spectacle kit should be provided to those employees who must wear corrective lenses that will not fit inside the respirator. Designed by the respirator manufacturer, the kit will be inserted into the face piece. Employees may not wear contact lenses to work in any atmosphere where there is an increased risk of eye damage from their use, regardless of the use of respiratory protection.

11.4 OTHER FACTORS THAT MAY AFFECT THE RESPIRATOR SEAL

The following activities are prohibited during respirator use since they may affect the face-to-face piece seal:

- Chewing gum, tobacco, or any other substance
- Consumption of food or drinks
- Wearing facial makeup

11.5 USER SEAL CHECKS

Employees must perform user seal checks each time they wear a respirator with a tight-fitting face piece. Appropriate user seal checks include the negative pressure check and the positive pressure check described in Appendix B OSHA User Seal Check Procedures 1910.134 B-1. These tests should be discussed and demonstrated during each training session and/or respirator fit test. Employees should be instructed in the importance of performing these tests each time they use a respirator and before entering the hazardous atmosphere.

11.6 FILTER REPLACEMENT FOR PARTICULATE RESPIRATORS

Mechanical filters for protection against particulate contaminants actually become more efficient with increased particulate loading up to the point where airflow becomes restricted. A good "rule-of-thumb" for mechanical filters is to replace them as soon as there is a noticeable increase in breathing resistance through the filters. This indicates that the particulate loading has started to restrict airflow through the filter.

11.7 CARTRIDGE OR CANISTER REPLACEMENT FOR GAS AND VAPOR RESPIRATORS

Odor (i.e., chemical breakthrough) should not be used as the primary indicator of the need for cartridge or canister replacement.

11.7.1 End-of-Service-Life Indicators (ESLI)

Respirator cartridges and canisters equipped with an ESLI must be replaced when the indicator dictates the need. Employees must be thoroughly familiar with operation of the ESLI according to the manufacturer's instructions.

11.7.2 Scheduled Replacement

Respirator cartridges used for organic vapors that do not have an ESLI should be replaced as outlined in the Appendix D Table.

12.0 MAINTENANCE AND CARE OF RESPIRATORS

Each MoDOT respirator user is responsible for the maintenance and care of his/her own respirator. Maintenance and care of air-purifying respirators shall be done on a regular basis to ensure that the user has a respirator that is clean and in good operating condition.

12.1 CLEANING AND DISINFECTING OF RESPIRATORS

All individually issued air-purifying respirators must be cleaned and disinfected after each use (including use during fit testing) at the end of the day or as conditions warrant.

12.2 INSPECTION OF RESPIRATORS

When inspecting the respirator follow the checklist in Appendix C Respirator Inspection Checklist.

12.2.1 Air-Purifying Respirators

All individually issued air-purifying respirators must be inspected by the user during cleaning and before each use.

12.3 BREATHING AIR QUALITY

Breathing air for SARs and SCBAs must comply with the requirements for Grade D breathing air as described in the ANSI/Compressed Gas Association Commodity Specification for Air (G-7.1-1989).

12.4 STORAGE OF RESPIRATORS

All respirators must be stored in a location and manner that they are protected from damage, contamination, dust, sunlight, temperature extremes, excessive moisture, and damaging chemicals. They must also be protected from deformation of the face piece and exhalation valve.

12.5 REPAIR OF RESPIRATORS

Any respirators that are in need of minor repairs, need replacement of component parts such as inhalation and exhalation valves, exhalation valve covers, gaskets, head or neck straps, cartridge holders, and lenses or lens covers, or fail any other aspect of an inspection must be taken out of service immediately, tagged, and returned to the DSHM.

*****END OF PROGRAM*****

Appendix A Fit Test Procedures

1.) Sensitivity Test (no respirator)

- Place the hood over the employee
- Use the sensitivity solution and count the number of pumps
- Note the number of pumps when the employee tasted the solution

2.) Employee shall properly wear the respirator and perform the positive and negative pressure fit test

3.) Fit Test (with respirator)

- Place the hood over the employee
- Give 10 pumps of the fit test solution
 1. Have employee breathe normally for 1 minute (add the number of pumps from the sensitivity test).
 2. Have employee move head side to side for 1 minute (add the number of pumps from the sensitivity test)
 3. Have employee move head up and down for 1 minute (add the number of pumps from the sensitivity test).
 4. Have employee read the "*Rainbow Passage*" (add the number of pumps from the sensitivity test).
 5. Have the employee take deep breaths for 1 minute (add the number of pumps from the sensitivity test)

6. Have the employee bend down as if they are picking up something for 1 minute (add the number of pumps from the sensitivity test).
7. Have the employee breathe normally for 1 minute.

Appendix B OSHA User Seal Check Procedures 1910.134 B-1

User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Face piece Positive and/or Negative Pressure Checks

A. *Positive pressure check.* Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. *Negative pressure check.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

Appendix C Respirator Inspection Checklist

Type of Respirator:	Location:
Respirator Issued to:	Type of Hazard:
Face piece	Cracks, tears, or holes Face mask distortion Cracked or loose lenses/face shield
Head straps	Breaks or tears Broken buckles
Valves	Residue or dirt Cracks or tears in valve material
Filters/Cartridges	Approval designation Gaskets Cracks or dents in housing Proper cartridge for hazard
Air Supply Systems	Breathing air quality/ grade Condition of supply hoses Hose connections Settings on regulators and valves
Rubber/Elastomer Parts	Pliability Deterioration
Inspected by:	Date:
Action Taken:	

Appendix D Replacement Schedule

Contaminant Concentration	Cartridge Change out Schedule	Basis for Change out Schedule
> PEL, but less than 1,000 ppm	Before each shift	Maximum allowable cartridge mass loading (as recommended by cartridge manufacturer)
< PEL but detectable	Before each shift	Moderate cartridge mass loading (does not exceed cartridge media capacity)
Not detectable (by sampling or less than 50% response with PID)	Weekly	Minimal cartridge mass loading (must have air-tight storage of cartridges between uses to minimize water vapor adsorption)
Characterized only by chemical family, <100% response with PID	Before each shift	Moderate cartridge mass loading (does not exceed cartridge media capacity)
Characterized only by chemical family, <50% response with PID	Before each shift	Minimal cartridge mass loading (does not exceed cartridge media capacity)

*PEL= Permissible Exposure Limit *PPM= Parts Per Million *PID= Photo Ionization Detector

If the concentration is less than 200 ppm, you can reasonably expect a service life of at least 8 hours for the cartridge at a normal work rate.

Service life is inversely proportional to work rate.

Reducing the airborne concentration of the contaminant by a factor of 10 will increase service life by a factor of 5.

Relative humidity levels above 85% will reduce service life by approximately 50%.

Odor breakthrough may be used as a secondary or backup indicator for cartridge replacement using these guidelines.

Appendix E Fit Test Record

Name: _____ Test Date: _____

(Please Print)

Employee ID #: _____

Respirator Selected:

Manufacturer:

Model:

Cartridge:

Size: (circle one) small medium large

Testing Agent:

Name of Test Conductor: _____

(Please Print)

Fit testing was administered in accordance with 29 CFR 1910.134. We have reviewed fit testing procedures and proper usage, storage and cleaning.

Based upon the information provided during the test, the undersigned agree, employee has been properly trained in how to and can safely wear and maintain a respirator.

Test Conductor's Signature: _____ Date: _____

Employee Signature: _____ Date: _____

**NOTE → Employee must be clean-shaven for respirator to work properly.
This form must be filled out in pen**

Appendix F Fit Testing Checklist

Compatible with your face	Yes	No	Yes	No	Yes	No
Positive pressure fit check	Pass	Fail	Pass	Fail	Pass	Fail
Negative pressure fit check	Pass	Fail	Pass	Fail	Pass	Fail
Head Stationary Normal Breathing (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Head Stationary Deep Breathing (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Head Turning Side To Side (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Head Moving Up and Down (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Talking (reads Rainbow Passage) (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Bending Over (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Head Stationary Normal Breathing (60 seconds)	Pass	Fail	Pass	Fail	Pass	Fail
Respirator in test result	Pass	Fail	Pass	Fail	Pass	Fail

Appendix G Disposable N95 Respirator Usage

The Disposable N95 is not a tight fitting face piece respirator. It will be considered a dust mask and will only be used when exposure limits are below the PEL/TLV. The Half Face respirator with N95 cartridges will not be used during the below processes. The attachment below shows the differences between the Disposable N95 and the Half Face respirator with N95 cartridges. The following are some processes for which the Disposable N95 can be used.

Concrete Repair/Replacement (Silica Dust)

Respiratory protection is not necessary when utilizing appropriate engineering controls while performing concrete repair/replacement work. A Disposable N95 is recommended for voluntary use during these operations.

Engineering Controls

- Concrete Saw – adding water
- EZ Drill – adding water or vacuum system
- Jackhammer – adding water
- Concrete/Duracal Bags – buy commercially
- Bobcat w/ broom attachment for sweeping – utilize an enclosed cab

- Compressed air for sweeping – stay up wind when sweeping

Welding/Cutting/Grinding (Galvanized and Stainless Steel)

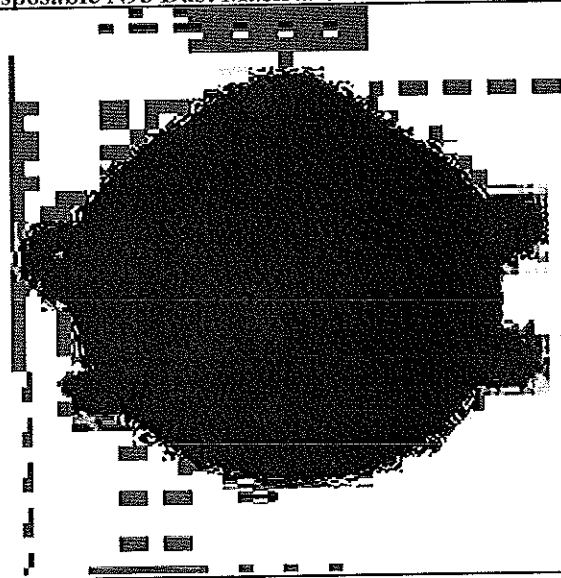
When welding, cutting or grinding on **galvanized** steel for less than 2 hours, respiratory protection is not necessary when utilizing one of the approved Engineering Controls listed directly below or welding outside. A Disposable N95 is recommended for voluntary use during these operations.

When welding, cutting or grinding on **stainless** steel for less than 6 hours, respiratory protection is not necessary when utilizing one of the approved Engineering Controls listed directly below or welding outside. A Disposable N95 is recommended for voluntary use during these operations.

Engineering Controls

- Natural Ventilation – the movement of air through a workplace by natural forces. Using airflow from open windows, doors and roof vents.
- Mechanical Ventilation – the movement of air through a workplace by a mechanical device. Fans, local exhaust, local forced air and general ventilation are examples of mechanical ventilation.
- Local Exhaust Ventilation - uses enough local exhaust at the arc to remove the fumes and gases from the breathing area such as vacuum nozzle at the arc, fume hoods and gun mounted fume extractor.
- Local Forced Air Ventilation – a local air moving system such as a fan or fume hood that pulls fresh air horizontally across the welder's face.

Difference Between Disposable N95 Dust Mask and Half Face Respirator with N95 Cartridges



Disposable N95 Dust Mask



Half Face Respirator with N95 Cartridge

Type: Safety/Health

Chapter : 1 Safety Policies

Section: 102 Safety Committees

Sub- Section:

Policy/Procedure #:

Effective Date:01/01/2010

Supersedes: 04/1/2004

Dated:

INTRODUCTION

All Districts and the Central Office shall have a Safety Committee which consist of representatives of all operational levels and some management with one member of the committee elected as chairperson. The committee serves as a forum, created for the purpose of promoting safety and health through communication.

RESPONSIBILITIES

The responsibilities of the Safety Committee include:

- *Discussing safety policies and procedures with management and making recommendations for improvements.
- *Serving as liaison between workers and management in matters of safety.
- *Recommending safety resources, promoting safety awareness and evaluating employee safety suggestions.
- *Evaluating the nature, causes and impact of injuries and accidents, and recommending appropriate actions to management which will reduce or eliminate future occurrences.
- *Identifying unsafe work processes and worker behaviors and making corrective recommendations.

COMMITTEE MEETINGS

1. The committee will meet at least once each month to discuss all issues concerning safety in the district/central office. The length of the meeting should normally not last more than two hours.
2. Minutes of each meeting should be recorded and circulated through all employees.
 - a.) Minutes should be posted for a limited time on each facility or office bulletin board.

b.) A copy of the minutes should be submitted to the Risk and Benefits Management office.





Risks & Benefits Management SharePoint » Forms

Risk & Benefits Management Forms

All current RB forms are located on this page. Click on a link below to jump to the forms associated with that category.

- Employee Benefits
- Safety & Health
- Workers' Compensation
- General / Fleet Vehicle Liability
- Property Damage
- Risk Assessment

Category	Forms
Employee Benefits (MoDOT / MSHP Insurance Forms)	<ul style="list-style-type: none"> • Authorization for Release of Health Information • Medical Enrollment Coventry (A570) • MH Net Behavioral Health Medical Claim Form • Lawful Presence Affidavit Under Age 18 • Lawful Presence Affidavit Age 18 and Older • HSA Enrollment Form • HSA Contribution Form • Medical Claim Form • Medical and Life Manual Payment Receipt • Medical and Life Refund Request • Basic Life Enrollment (A560) • Optional Life Insurance (A560E) • Retiree Optional Life (A560R) • Death Notification • Voluntary Life Insurance (A435) • Voluntary Life ACH Form • Voluntary Life PHA • Cafeteria Change Form • Bank Draft Agreement • PeopleSoft Security Request Form - (MSHP Users Only) • Deferred Comp One-Time Deduction Authorization Form • Handicapped Dependent Application and Certification • Delta Dental Claim Form • NVA Vision Claim Form • Cafeteria Plan Claim Form
Safety & Health	<ul style="list-style-type: none"> • Certification of Exam • Employee Incident Statement • Facility Audit Inspection Form • Footwear Voucher • In Case of an Accident - CO • Maintenance Work Simulation • Post Accident Drug and Alcohol Flow Chart • Recommendation Form for Meritorious or Appreciation • Work Simulation Physical - Non Physical <p>RX Safety Glasses Forms:</p> <p>Contact Your District Safety & Health Manager or Safety Officer for a form</p>
Workers' Compensation	<ul style="list-style-type: none"> • Employee Responsibilities • Field Injury Report • Lost Time Preference A-450 • Medical Release • Mileage Reimbursement Form • MoDOT Return to Work • MSHP Return to Work
General / Fleet Vehicle	<ul style="list-style-type: none"> • Claim Report (E-11) • Payment Request Form • Photo Mounting Sheet 1 • Photo Mounting Sheet 2
Property Damage	<ul style="list-style-type: none"> • Property Damage Completion Notice
Risk Assessment	<ul style="list-style-type: none"> • Attachment B General Contractors for Services • Risk Assessment Form • Risk Assessment Form - Leases

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Safety Footwear	
	<u>Effective</u>	February 1, 2015	
	<u>Supersedes</u>	February 1, 2014	

POLICY STATEMENT

All safety sensitive employees shall wear approved safety footwear when engaged in work activities occurring on or near the right-of-way and MoDOT grounds and facilities. Non-safety sensitive employees should wear appropriate footwear for the activity and location of their work assignment.

DEFINITIONS

1. Approved safety footwear – footwear which meets or exceeds the ASTM F2413-11 classification. Footwear should have abrasion resistant uppers, soles that are oil and skid (slip) resistant, defined heels, which do not exceed one and one-half inches in height, and be a minimum of a 6-inch boot.
2. ASTM – American Society for Testing and Materials
3. OSHA – Occupational Safety & Health Administration

POLICY REQUIREMENTS

Safety Sensitive employees

1. All full time, seasonal, summer, emergency, probationary, and temporary assignments or cross training employees working where there is an anticipated, and/or routine exposure to drop or compression hazards shall wear approved safety footwear when engaged in work activities occurring on or near the right-of-way and MoDOT grounds and facilities.
2. When work activities include exposure to heavy "drop" hazards, such as, fabrication, bridge and concrete repairs, etc., employees shall wear protective footwear with metatarsal protection.
 - a. Workers temporarily assigned to jobs with exposure to heavy drop hazards, such as jack hammering, concrete replacement or deck repair activities, etc., shall wear removable metatarsal protection.
 - b. Removable metatarsal guards will be provided by the department.
3. Employees involved in any activities with electrical hazards, such as, signal and lighting, etc. shall wear footwear constructed of soles with electrical hazard (EH) protection.

4. District Engineers/Assistant District Engineer/Division Heads or their designees have the authority to approve additional safety footwear for safety sensitive employees as conditions warrant.

Non-safety sensitive employees

1. When entering areas requiring protective footwear the employee should as a minimum wear footwear that has abrasion resistant uppers that fully covers the toe, heel, & foot up to the ankle.
2. If work activities present drop, crush, or compression hazards, removable safety toe caps/guards should be used.
3. District Engineers/Assistant District Engineer/Division Heads or their designees have the authority to approve non-safety sensitive department's (i.e. Design, B&B, etc.) eligibility for safety footwear as conditions warrant.

PROCEDURES

1. The following criteria apply to safety toe protective footwear
 - a. Safety Sensitive employees (full-time, seasonal, summer or interns) who will work a minimum of 240 hours per year are eligible for the protective footwear subsidy each calendar year.
 - b. Employees may receive an annual subsidy up to \$120.00. Limit one reimbursement voucher per year.
 - c. If the full subsidy is not used one year, full-time employees may rollover the full subsidy to the following year (\$240). Only the full subsidy can be rolled over and it can only be rolled over once. Partial rollovers are not permitted.
 - d. Employees are not eligible for the safety footwear subsidy once they have signed their retirement papers.
2. The following criteria apply to metatarsal protective footwear
 - a. Authorized Safety Sensitive employees who will work a minimum of 240 hours per year are eligible for the protective footwear subsidy each calendar year.
 - b. Employees may receive an annual subsidy up to \$140.00. Limit one reimbursement voucher per year.
 - c. If the full subsidy is not used one year, full-time employees may rollover the full subsidy to the following year (\$280). Only the full subsidy can be rolled over and it can only be rolled over once. Partial rollovers are not permitted.
 - d. Employees are not eligible for the safety footwear subsidy once they have signed their retirement papers.
3. In order to purchase safety footwear, employees have two subsidy (purchase) options available to them.

- a. Voucher Method - Employees may purchase footwear and turn in a Footwear Voucher, once a year, for the appropriate footwear subsidy, not to exceed the purchase price of the boots.
 - b. Boot mobile - Employees may purchase boots through a protective footwear company, who is under contract with MoDOT. The contractor will deduct the appropriate footwear subsidy at the time of purchase and provide the department with a monthly summary report of purchases.
4. The following steps shall apply in order to receive a safety footwear subsidy.
- a. Employee
 - i. Purchase appropriate protective footwear.
 - ii. Submit a reimbursement voucher form with original receipt to supervisor for approval or purchase through MoDOT approved boot mobile.
 - iii. Replace or service footwear when steel is exposed or when the soles do not provide good traction.
 - b. Supervisor
 - i. Review and implement Protective Footwear Policy with employees as it applies to their work activities.
 - ii. Verify purchased protective footwear complies with the Policy.
 - iii. Submit reimbursement voucher to Risk and Benefits Management for record keeping and payment.
 - c. Risk and Benefits Management
 - i. Track all district and division employees eligible for the protective footwear subsidy.
 - ii. Coordinate the recordkeeping and reimbursement for employees receiving a subsidy with the Financial Services Division.
 - iii. If needed, the District Safety and Health Manager/Safety Officer will perform a job hazard assessment to determine the type of protective footwear needed

TRAINING

Gear Up - Basic Safety Training (LMS code 24492) to be completed within first week of hire.

CROSS REFERENCES

1. OSHA - General Industry Standard 29 CFR 1910.136 - Foot Protection.
2. ASTM F-2413-2005 - Standard Specification for Performance Requirements for Protective Footwear

Chapter : 1 Safety Policies

Section: 104 Safety Recognition Policy

Sub- Section:

Policy/Procedure #:

Effective Date: 03/22/2011

Supersedes: 01/01/2008

Dated:

PURPOSE

To establish a policy, which recognizes safety sensitive employees within the department who have had exceptional work safety records or individuals who have taken extraordinary actions to assist in an emergency situation.

POLICY

A. The department safety awards policy consists of three different recognition awards:

- **Long Term Safety Awards**-recognizing individual employees in safety sensitive jobs with 15, 20, 25, 30, 35, 40, and more years without a lost time or a break in service.
- **Certificate of Appreciation**-recognizing an employee(s) for extraordinary actions in ensuring the safety of others.
- **Meritorious Safety Award** The highest level of safety award presented by the Department. This award recognizes employee(s) or member(s) of the general public for life saving actions taken during an emergency or life-threatening event.

B. Meritorious Safety Awards and Certificates of Appreciation will be presented as employees earn special recognition.

ELIGIBILITY

*** Long Term Safety Awards**

A special safety award presented annually to "continuous" full time safety sensitive employees who have worked the past 15, 20, 25, 30, 35, 40, or more years without any lost time injuries or breaks in service. A **lost time injury (LT)** is defined as any compensable incident, which requires an employee's absence from work. Lost time incidents shall be charged to the employee's official org unit (as listed on payroll).

***Certificate of Appreciation**

Special recognition presented to an employee (s) or member(s) of the general public for extraordinary actions in ensuring the safety of others. This award is for anyone who may have assisted another person in need of help, but did not directly save their life. Their

peers recommend candidates for this award by submitting a recommendation form (Attachment A) to the Risk and Benefits Management Office. All MoDOT employees are eligible.

***Meritorious Safety Award**

Special recognition presented to any employee (s) or member(s) of the general public for life saving actions taken during an emergency or life-threatening event on or off the job. Life saving actions demonstrated may or may not be successful but an attempt was made and/or the recipient put their own safety in jeopardy in an attempt to save another human being. Peers recommend candidates for this award by submitting a recommendation form (Attachment A) to the Risk and Benefits Management Office. To ensure the integrity of this award and guarantee consistency, final determination for individuals presented with this level of achievement will be made by the Director of Risk and Benefits Management or his or her designee.

DESCRIPTION OF SAFETY AWARDS

- **Long Term Safety Awards** Each year these special award winners will receive a token of recognition provided by the department.
- **Certificate of Appreciation** is a certificate, signed by the MoDOT Director.
- **Meritorious Safety Award** is an engraved plaque describing the life saving event.

Safety Sensitive and Non Safety Sensitive job title listing:



SS & NSS 7-11-07.xls RECOMMENDATION FORM FOR MERITORIOUS OR APPRECIATION.doc

Seat Belts [RSMo 307.178] shall be worn properly by all operators and passengers in department-owned, leased, rented equipment or vehicles. Employees may use their personal vehicle for official department business with written authorization or approval from the immediate supervisor. The employee must adhere to all safety and traffic policies, rules, laws and regulations.

- **Refer to HR Personnel Policy 0504, Vehicle Usage and Liability**

Chapter : 2 Safety Procedures

Section: 204 Statewide Excavation Policy –
Trenching & Shoring Procedures

Sub- Section:

Policy/Procedure #:

Effective Date: 01/01/2010

Supersedes: 01/01/2004

Dated:

General

The Missouri Department of Transportation Statewide Excavation Policy-Trenching and Shoring Procedures meet the intent of the Occupational Safety and Health Administration's 29 CFR 1926, Subpart P: Excavations. These procedures apply to all open excavations made in the earth's surface and to all MoDOT employees who work in or around an open excavation.

No employee shall be asked to enter an excavation, four (4) feet or more in depth, until that employee has been adequately trained. Excavations five (5) feet or more in depth, where employee occupancy can be reasonably anticipated, must be protected by an appropriate protective system determined by the competent person. The competent person shall remain on site when protective systems are required and the excavation is occupied.

An Alternative Procedure

Should any individual District or Division find this procedure to be too costly, time consuming or labor intensive for the anticipated number of excavations performed, they may enter into a contract with a competent provider. It then becomes the contractor's job to comply with the above-mentioned OSHA standard.

Purpose

The purpose of the Statewide Excavation Policy – Trenching and Shoring Procedure is to prevent incidents through training and equipping employees to eliminate or control the hazards associated with working adjacent to an excavation; entering; working in and exiting from an excavation.

Scope and Application

These procedures apply to all excavations where employee occupancy can reasonably be anticipated.

Training

No employee shall be allowed to enter an excavation deeper than 4 feet until they have been adequately trained. Employee training will consist of hazard identification, installation and maintenance of approved protective systems or methods; soil conditions; and emergency and evacuation procedures.

Competent person training will include additional training that includes soil classification, protective system selection, atmospheric testing, and excavation inspections.

All employees' training will be documented and updated as necessary.

Specific Excavation Requirements

- 1) **Surface Encumbrances:** All surface encumbrances (power lines, light poles, etc.) that create a hazard to employees shall be removed or supported, as necessary to safeguard employees.
- 2) **Underground Installations:** MoDOT personnel shall contact Missouri One Call System as well as other utilities to ensure that all underground utilities are identified and marked prior to doing excavation work.

When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by a safe and acceptable means.

While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

- 3) **Access and Egress:** A stairway, ladder, ramp or other safe means of egress shall be located in excavations that are four (4) feet or more in depth so there is no more than 25 feet of lateral travel distance for employees.
- 4) **Exposure to Falling Loads:** No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded.

- 5) **Warning System for Mobile Equipment:** When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, spotters, or stop logs. If possible, the grade should be away from the excavation.
- 6) **Hazardous Atmospheres:** Adequate precautions shall be taken if a hazardous atmosphere exists or could reasonably be expected to exist in excavations four (4) feet or greater in depth. Hazards may include oxygen deficient atmospheres (less than 19.5 percent oxygen), concentrations of a flammable gas in excess of 20 percent of the lower flammable limit of the gas, or exhaust gases from nearby equipment such as carbon monoxide. Safety Officers shall be contacted when a hazardous atmosphere is suspected in order to conduct air monitoring prior to entry. Refer to the Confined Space Policy located in the Risk and Benefits Management Manual.

Every effort should be made to engineer out these hazards before equipping employees with personal protective equipment (PPE) such as respirators. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

- 7) **Protection from Hazards Associated with Water Accumulation:** Employees shall not work in excavations in which there is accumulated water unless adequate precautions have been taken to protect employees. Water removal shall be monitored by a competent person to ensure proper operation of pumps or other means used to remove water are effective.

If excavation work interrupts the natural drainage of surface water, diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to runoff from heavy rains will require an inspection by a competent person.

- 8) **Stability of Adjacent Structures:** Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems, such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.

Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted except when:

- a) A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure.
- b) The excavation is in stable rock.
- c) A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so it is unaffected by the excavation activity.
- d) A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.

Sidewalks, pavements and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employee/public from the possible collapse of such structures. Refer to the ***Traffic Control for Field Operations Manual*** for detour information.

- 9) **Protection of Employees from Loose Rock or Soil:** Employees shall be protected from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such working materials, excavated spoil and/or equipment at least two (2) feet from the edge of excavations, or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations, or by a combination or both if necessary.

- 10) **Inspections:** Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated.

Should the competent person find evidence of a situation that could result in a possible cave-in, indication of failure of protective systems, hazardous atmospheres, or other hazardous conditions, employees shall be immediately removed from the hazardous area until the necessary precautions have been taken to ensure their safety. Employees will not

be allowed to enter the excavation until approved by the competent person.

11) Fall Protection: Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails shall be provided where walkways are six (6) feet or more above lower levels. For more information refer to fall protection and open excavations referred to in the *Traffic Control Manual for Field Operations Manual*.

12) Protection of Employees in Excavations: Each employee in an excavation shall be protected from cave-ins by an adequate protective system except when:

- a) Excavations are made entirely in stable rock.
- b) Excavations are less than 5 feet in depth **AND** examination of the soil by a competent person provides no indication of a potential cave-in.

Protective systems shall have the capacity to resist, without failure, all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

Employees are expressly forbidden to enter trenches, which exceed 20 feet in depth, unless the trench is protected by a system approved by a Registered Professional Engineer. A copy of the stamped letter or tabulated data shall be on file in the district or division Risk and Benefits Management office.

13) Soil Classification: Each soil and rock deposit shall be classified by a competent as Stable Rock, Type A, Type B, Type C, or Type C-60 in accordance with the definitions set forth in Appendix A.

MoDOT recognizes the additional classification of Type C-60 soil. The C-60 soil classification may be used in the design of a protective system if the classification and subsequent designs have been approved by a registered professional engineer. To be classified as Type C-60 soil, the soil must meet all the conditions specified in the Type C-60 Soil Checklist, see Appendix A.

The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis in accordance with acceptable testing in Appendix A.

In a layered excavation, the excavation shall be classified in accordance with its weakest layer. However, each layer.

may be classified individually where a more stable layer lies under a less stable layer.

If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

Requirements for Protective Systems

- 1) **Materials and Equipment:** Materials and equipment used for protective systems shall be free from damage or defects. Damaged systems will be taken out of service immediately and shall remain out of service until approved for use by a Registered Professional Engineer. In addition, protective systems shall be used and maintained in a manner that is consistent with the recommendations of the manufacturer, and in a manner that will prevent employee exposure to hazards.
- 2) **Installation and Removal of Support:** Employees shall not be permitted to enter an excavation during installation or removal of the support system.

Support systems shall be installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support system.

Individual members of the support system shall not be subjected to loads exceeding those, which they were designed to withstand.

Installation of support systems shall always begin at the top of the excavation. Removal shall begin at the bottom of the excavation. During removal, support systems shall be released slowly so as to note any indication of possible failure of the remaining members of the structure or possible came-in of the sides of the excavation.

Backfilling shall progress at the same time as the removal of support systems from excavations.

- 3) **Sloping and Benching Systems:** Employees shall not be permitted to work on the faces of sloped or benched excavations at levels above other employees except when employees at the lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.

- 4) **Shield Systems:** Shield systems shall not be subjected to loads exceeding those, which the system was designed to withstand. Employees will not repair or attempt to repair shield systems that are damaged.

Shields shall be installed in a manner to restrict lateral or other hazardous movement of the shield in the event of the application of sudden lateral loads. The width of the excavation shall not exceed the width of the shield plus 12 inches.

Employees shall be protected from the hazard of cave-ins when entering or exiting the areas protected by shields. Ladders shall be located inside the shield system.

Employees shall not be allowed in shields when shields are being installed, removed, or moved vertically. Employees may remain in a shield that is being moved horizontally, but only if that shield is designed for such movement.

Excavations of earth material to a level not greater than two (2) feet below the bottom of a shield shall be permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench, and there are not indications while the trench is open of a possible loss of soil from behind or below the bottom of the shield.

Design of Sloping and Benching Systems: Sloping and benching systems shall be in accordance with one of the following options:

Option 1. Determination of slopes and configurations using Appendices A and B.

Maximum allowable slopes, and allowable configurations for sloping and benching systems, shall be determined in accordance with the conditions and requirements set forth in appendices A and B.

Option 2. Design by a registered professional engineer.

Sloping and benching systems not utilizing Option 1 of section shall be approved by a registered engineer.

Designs shall be in written form and shall include at least the following:

- a) The magnitude of the slopes that were determined to be safe for the particular project;
- b) The configurations that were determined to be safe for the particular project;
- c) The identity of the Registered Professional Engineer approving the design.

At least one copy of the design shall be maintained at the jobsite while the slope is being constructed. After that time the design need not be at the jobsite, but a copy shall be made available upon request.

Design of Support Systems, Shield Systems, and Other

Protective Systems: Designs of support systems, shield systems, and other protective systems shall be selected in accordance with the requirements of this policy as follows:

1. Option 1: Design using manufacturer's tabulated data.

Design of support systems, shield systems, or other protective systems that are drawn from manufacturer's tabulated data shall be in accordance with all specifications, recommendations, and limitations issued or made by the manufacturer.

Deviation from the specifications, recommendations, and limitations issued or made by the manufacturer shall only be allowed after the manufacturer issues specific written approval.

Manufacturer's specifications, recommendations, and limitations and manufacturer's approval to deviate from the specifications, recommendations, and limitations shall be in written form at the jobsite during construction of the protective system. After that time, the data may be stored off the jobsite, but a copy shall be sent to the district or division Risk and Benefits Management office.

2. Option 2: Design by a registered Professional Engineer.

Support systems, shield systems, and other protective systems not utilizing Option 1 shall be approved by a Registered Professional Engineer.

Designs shall be in written form and shall include the following:

- a) A plan indicating the size, types, and configurations of the materials to be used in the protective system.
- b) The identity of the Registered Professional Engineer approving the design.

At least one copy of the tabulated data, which identifies the Registered Professional Engineer who approved the data, shall be maintained at the jobsite during construction of the protective system. After that time this data may be stored off the jobsite, but a copy shall be sent to the district or division Risk and Benefits Management office.

Category:172 Maintenance Facility Performance Expectations Environmental Compliance

From Engineering Policy Guide

For additional information or help, the Design Environmental contact may be called at (573) 526-4778.

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172.1 Salt Management – Salt Kill

Citation: Missouri Water Quality Standards (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) ; Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) (Mo Clean Water Law); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

Remediate salt kills on and off MoDOT property.

Performance Measure

Identify evidence of dead or stressed vegetation on or off MoDOT property; includes remediated areas where evidence of a salt kill is currently visible. Develop and execute a plan to remove the contamination and reseed the affected area.

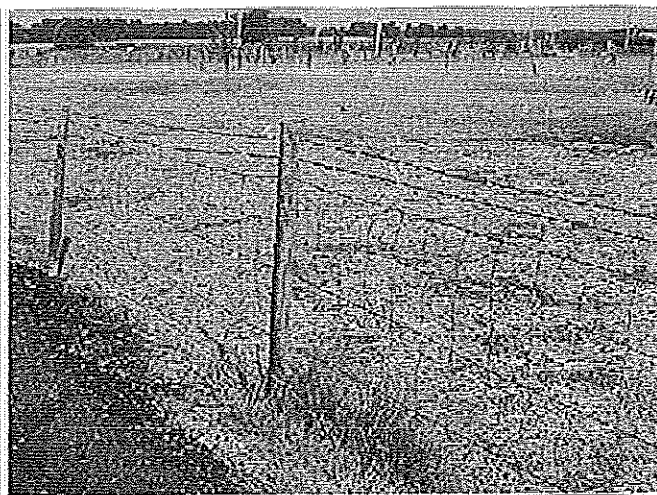
Acceptable Solutions

1. Prevent runoff of salt and notify adjacent landowner to offer corrective measures. Contact your district environmental specialist and risk management representative for assistance.
2. Remove soil and replace with clean soil and reseed.
3. Divert runoff from entering the neighbor's property.
4. Keep all salt and salt mix under cover.
5. Clean up all salt outside and maintain an impervious pad in front of the storage area.
6. Contact the district environmental liaison for additional options.



Salt kill on neighbor's property with dead vegetation and trees in background

Unacceptable



Clean soil replaced contaminated soil and area reseeded

Acceptable



Salt kill on neighbor's property from salt runoff and salt pond leaching and overflow

Unacceptable



Same area two years later after the salt pond was removed and the soil remediated

Acceptable

172.2 Salt Ponds and Basins

Citation: Missouri Water Quality Standards (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) ; Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) (Mo Clean Water Law); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

Salt ponds are to be closed and where engineered collection basins are installed they are to be maintained.

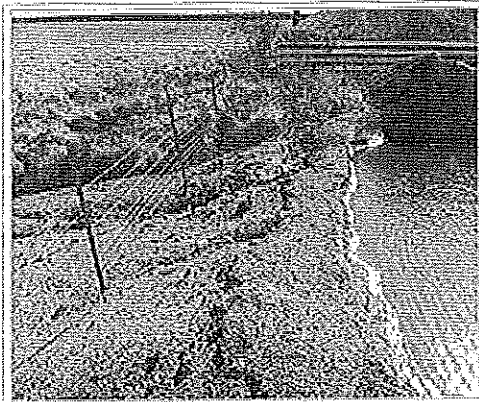
Performance Measure

Remove salt pond and dispose of the water in an approved manner. Maintain engineered collection basins and use the water for brine.

Acceptable Solutions

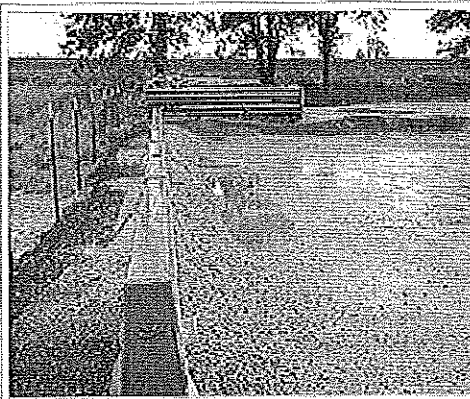
1. Close salt ponds by hauling the water to a permitted publicly owned treatment works (POTW), dig out contaminated soil and dispose of in a permitted solid waste landfill and backfill / grade / seed the area.
2. Engineered salt collection basins have to be maintained by periodic cleaning and resealing.

Note: Salt water can be used to make salt brine if it consists of only water and salt.



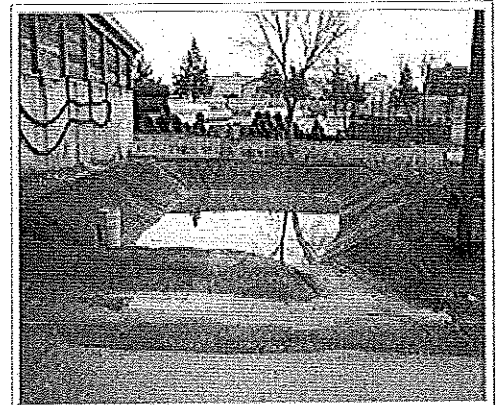
Leaking salt pond and resulting damage.

Unacceptable



Same area two years later with grass returning to neighbor's land.

Acceptable



Engineered salt basin collects water from salt pad area. The water is used for brine. It is cleaned and resealed every two years.

Acceptable

172.3 Salt Piles

Citation: Missouri Water Quality Standards (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) ; Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) (Mo Clean Water Law); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

Storm water on maintenance lots shall be protected from salt contamination.

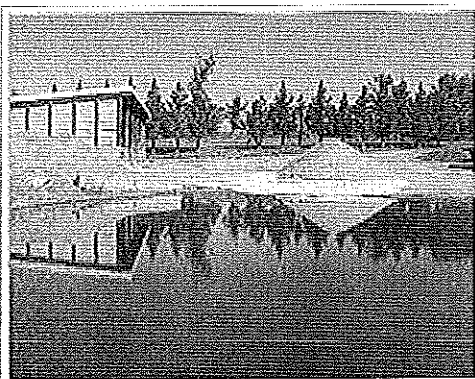
Performance Measure

All salt must be covered and stored to prevent contact with rain or rain runoff.

Acceptable Solutions

1. Salt will be under cover before any precipitation comes in contact with the material.

2. Any salt outside after a snow or ice event has to be cleaned up and returned to the covered area.



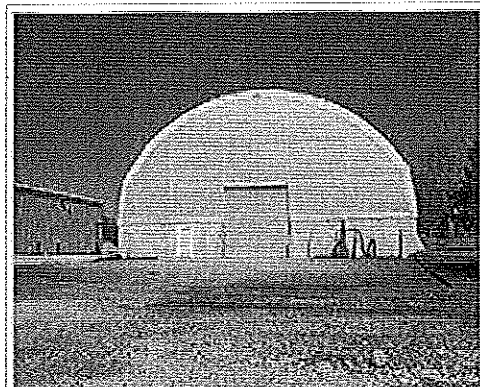
Salt mix pile stored outside without a cover. Leaching salt, rainwater flows into the bays and stored salt extends beyond the bays.

Unacceptable



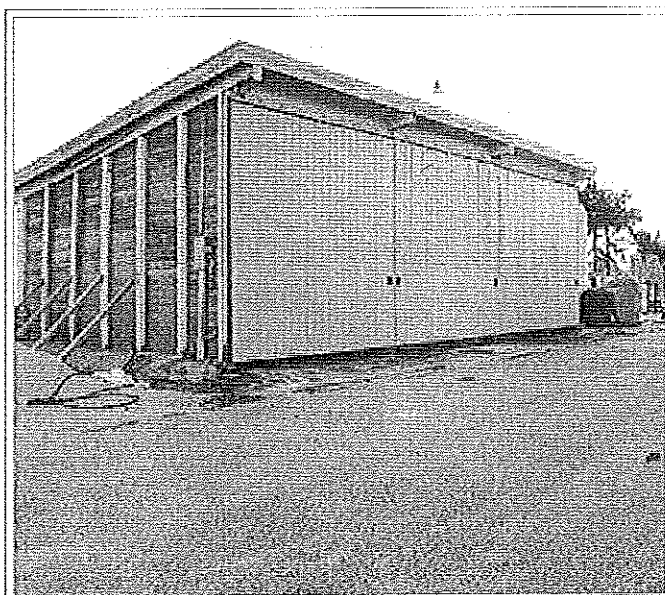
Salt and salt mix stored inside away from moisture. Note that surface water is diverted from the storage building.

Acceptable Temporary Solution



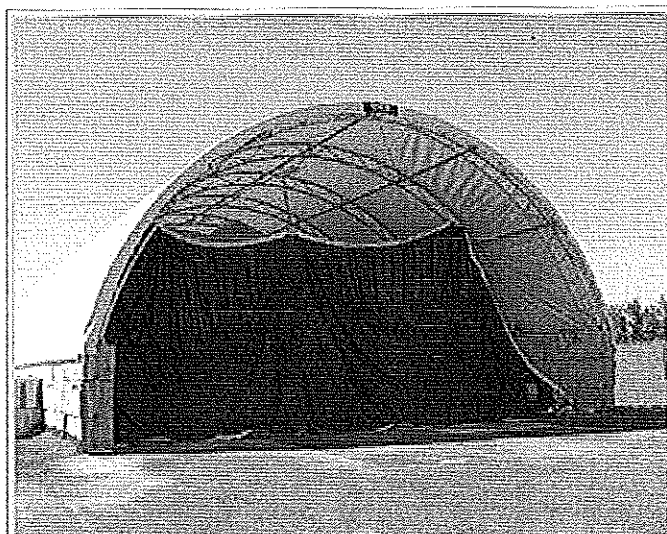
Salt storage building and impervious pad

Acceptable Permanent Solution



Adding doors to old salt buildings. These doors are costing \$600 to \$800 per door.

Acceptable



Open end salt tent with tarp cover with sealed mixing pad. The salt is back away from the front.

Acceptable

172.4 Salt Bays and Mixing Pads

Citation: Missouri Water Quality Standards (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) ; Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) (Mo Clean Water Law); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

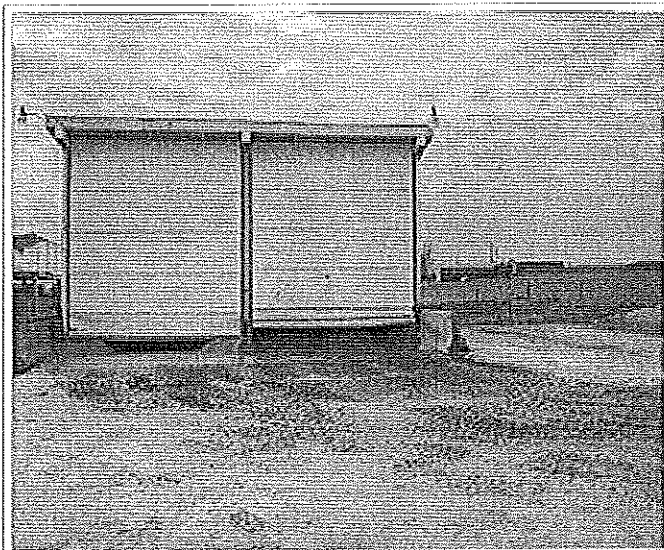
Protect salt from contact with storm water

Performance Measure

Conduct visual inspection of the storage areas periodically to ensure the salt is kept out of the elements. Maintain the buildings and covers to prevent moisture from coming in contact with the salt.

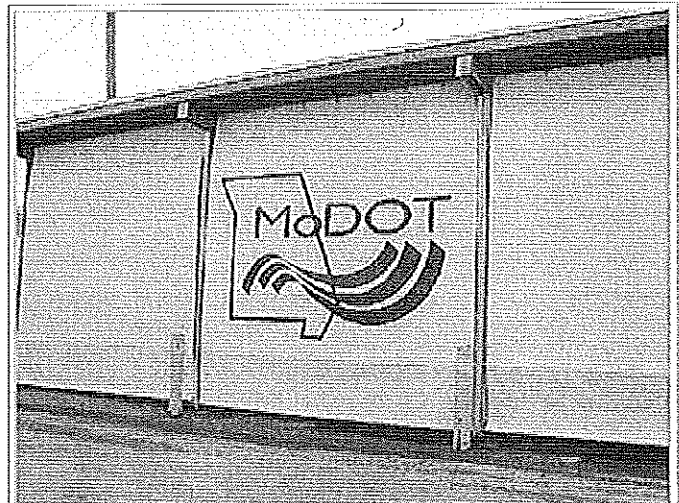
Acceptable Solutions

1. Discontinue salt bays that do not protect the salt from the elements – construct fabric buildings, domes, tents or other approved buildings.
2. Salt bays still in use shall be maintained in good condition with tarp / door system to protect the material from contact with rainwater and keep salt back away from rain. All mixing pads must be impervious to allow easy cleanup after an event.
3. Re-contour surrounding terrain and direct storm water away from salt storage or relocate salt storage structures if storm water runoff cannot be directed away from structure.



Salt doors not closed and salt left outside exposed to the elements

Unacceptable



Salt doors closed and no salt left exposed to the elements and impervious mixing pad in front for easy cleanup

Acceptable

172.5 Wash Water

Citation: Missouri Water Quality Standards (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) ; Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) (Mo Clean Water Law); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

Vehicle and equipment washing must be done where the water can be collected and properly treated prior to release to the environment or waters of the state.

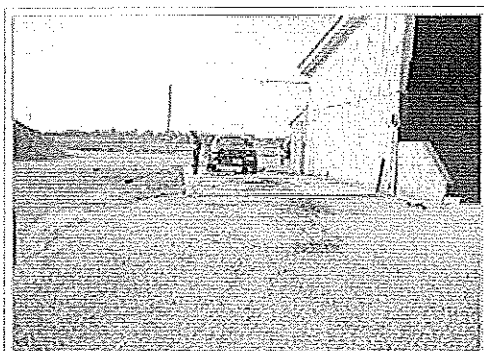
Performance Measure

Wash equipment only where the resulting wash water can be contained or treated.

Acceptable Solutions

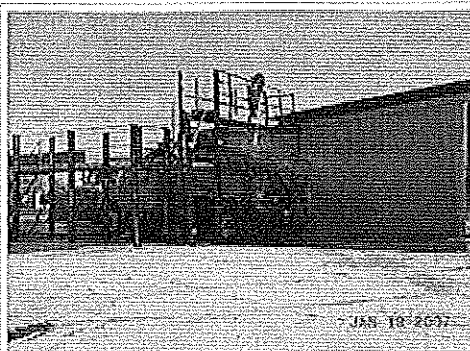
1. Drive vehicles/equipment to MoDOT lots with appropriate collection systems to wash them.
2. Allow rural facilities to wash vehicles/equipment at commercial truck washes.
3. Covered wash bay with sewer connection or tank system.
4. Install an onsite treatment system. This would require a discharge permit.
5. Construct same for rural facilities and pipe waste water to a holding tank. Wastewater must be removed on a regular basis and transported to nearest public sanitary sewer system. Solids will need to be disposed of at a permitted sanitary landfill. One option could include recirculate the wash water for gross washing followed by clean power wash. All material must be collected.
6. Construct covered wash bay with an oil/water separator and connect to public sanitary sewer system where available and allow rural facilities to use approved MoDOT washing facilities or local commercial wash facilities.
7. Install a zero discharge recirculation system for washing trucks.

Note: Do not discharge to a sewer without notifying the public waste treatment facility.



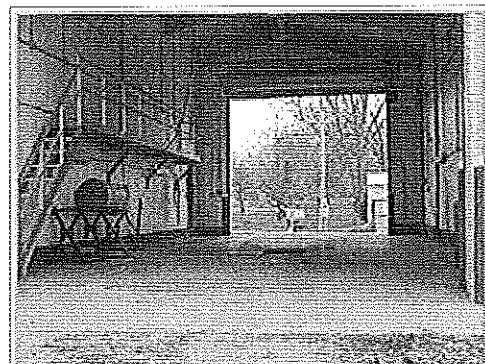
Open wash bay discharging to a ditch and potentially affecting a waterway

Unacceptable



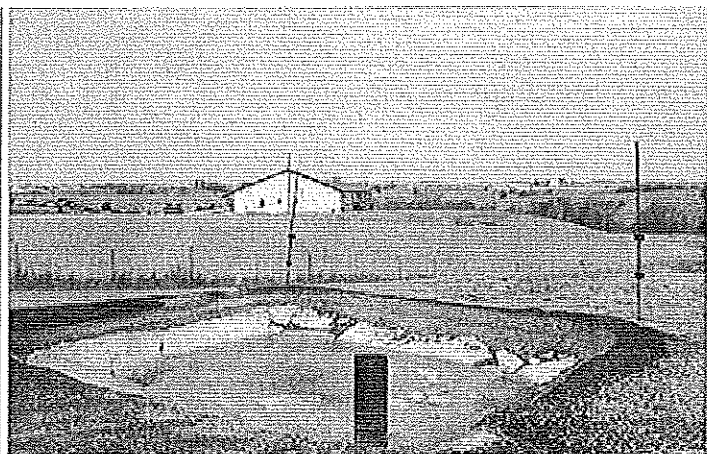
Washing with fire hose and runoff flowing offsite to a waterway

Unacceptable



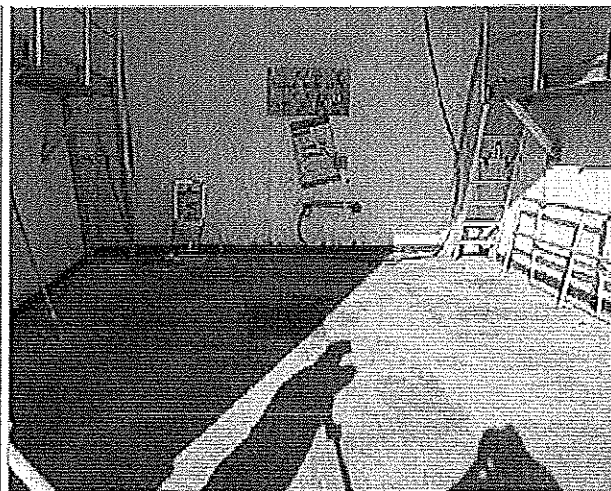
Wash bay connected to a sanitary sewer with an oil/water separator

Acceptable



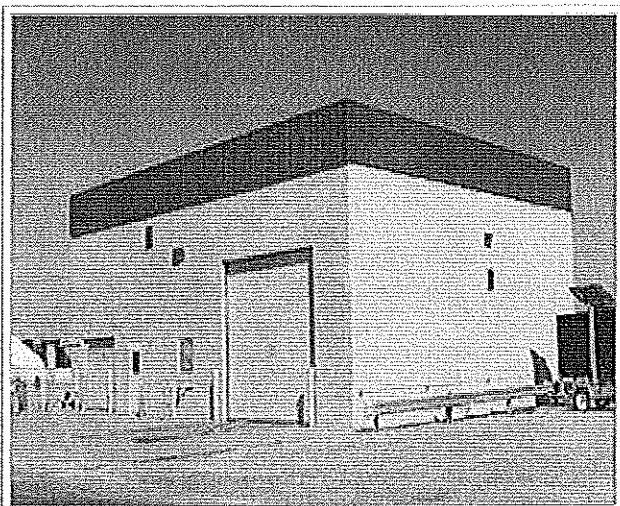
Gross salt truck washing enters this engineered pit and is used to make salt brine. In the summer the salt is cleaned up and clean stormwater is diverted around the pit.

Acceptable



Floor drains and wash bay are connected to a collection tank that is pumped and the water treated at a wastewater treatment plant.

Acceptable



District truck wash connected to a sanitary sewer

Acceptable



New truck wash under construction and connected to a sanitary sewer. Walls and roof to be installed.

Acceptable

172.6 Storm Water

Citation: 10 CSR 20-7.015 & 10 CSR 20-7.031 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) , Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) ; 10 CSR 20-7.031(3) (Water Quality Standards) Missouri Clean Water Law - Permit and Water Quality Regulations (No Discharge Permit); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

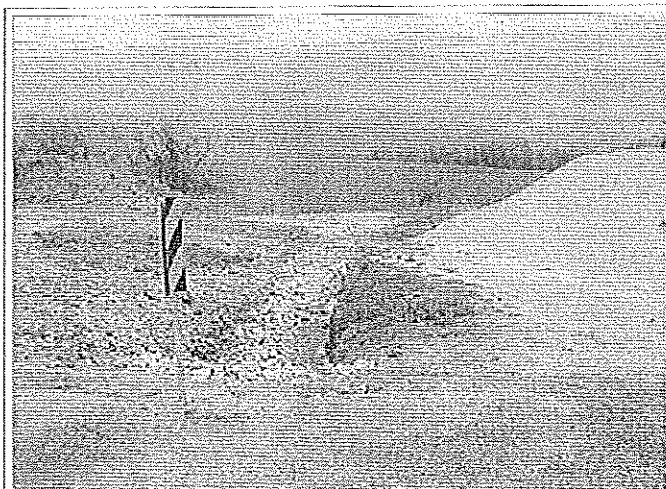
Storm water from maintenance facilities needs to be controlled to prevent aggregate, silt and sediment from being washed off the property into ditches and waterways.

Performance Measure

Inspect all areas on the maintenance lot where storm water potentially leaves the facility and develop and implement a plan to control the runoff.

Acceptable Solutions

1. Evaluate problem and implement facility improvements to keep silt, rock, aggregate and other materials on the lot at locations where storm water flows off-site. For example: install an aggregate berm that allows storm water to flow through, but contain aggregate material from migrating offsite. If this is the chosen option, these structures must be constructed in such manner that they do not retain water, but will catch sediment and can be maintained. Use mixture of fines and course material that will slow down the storm water for material to settle.
2. Install grass buffers that are sufficient to catch material and filter storm water runoff. Install so they can be maintained.



Rock-lined ditches and grass berms work well but need to be maintained. Ditch checks that can be cleaned out would aid this operation.

Unacceptable unless maintained

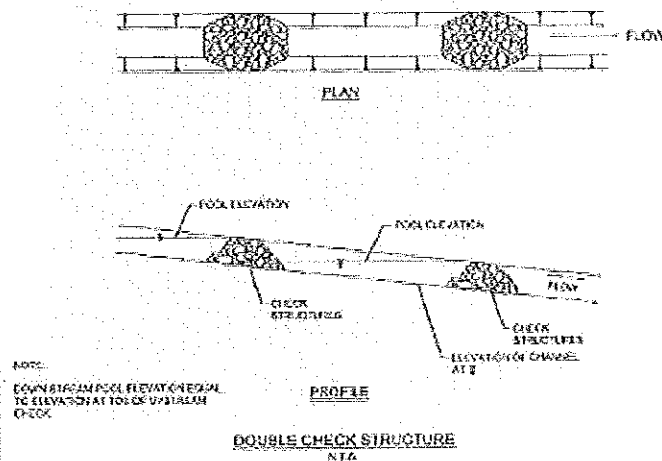


This berm hold the water long enough for the silt and suspended particles to settle and can be easily cleaned. It dries out between rains.

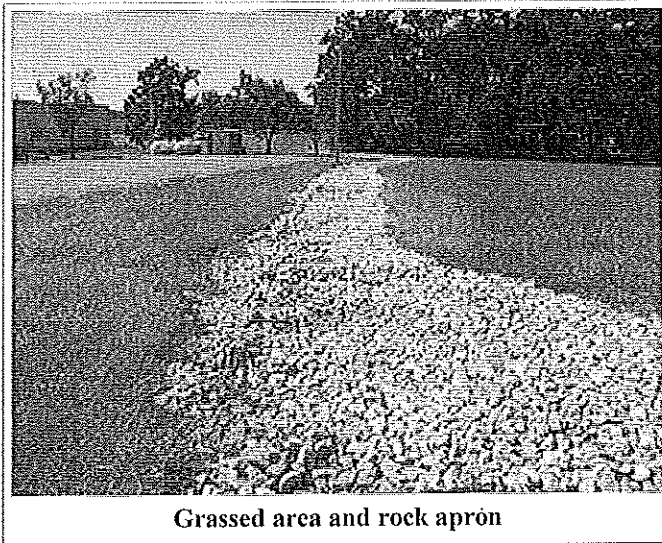
Acceptable



Ditch check that can be cleaned and maintained

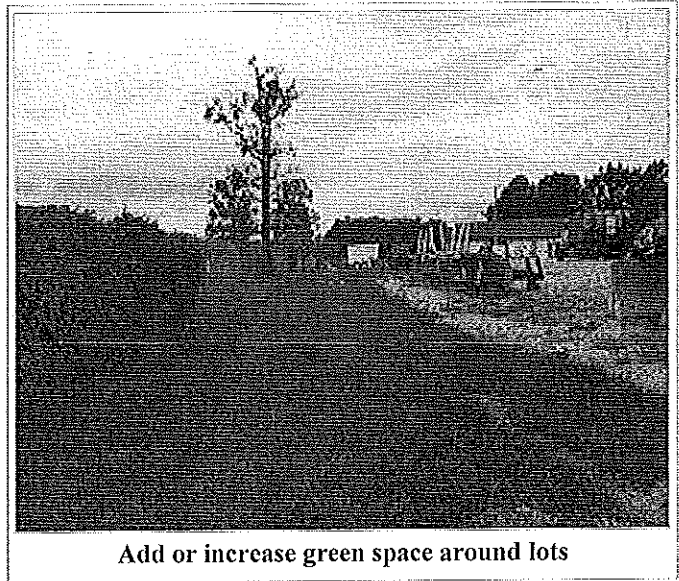


Acceptable



Grassed area and rock apron

Example of the ditch check design



Add or increase green space around lots

Acceptable

Acceptable

172.7 Secondary Containment for Brine

Citation: Sections 10 CSR 20-7.015 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) , 10 CSR 20-7.031 (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>) , Chapter 644 RSMo (<http://www.moga.mo.gov/mostatutes/chapters/chapText644.html>) ; Missouri Clean Water Law and Regulations (Construction and Operating Permit); Federal Clean Water Act (<http://www2.epa.gov/laws-regulations/summary-clean-water-act>)

Performance Expectation

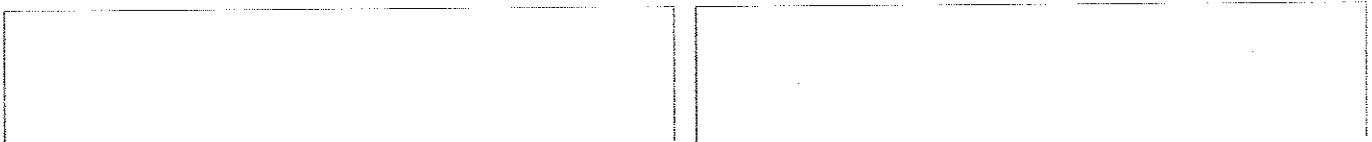
Keep all snow control chemicals (brine, beet juice (Geomelt) and calcium chloride) from entering waterways. Though not required by law, a release of the material to the environment would be regulated and could result in a major cleanup expense.

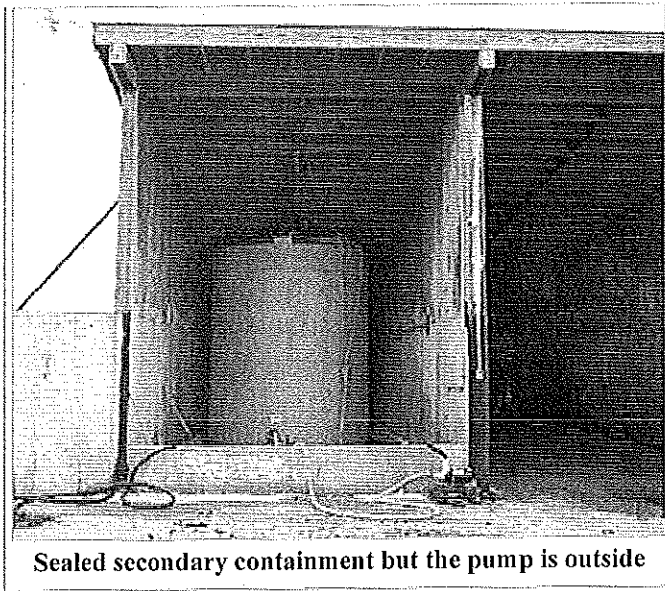
Performance Measure

Place all storage tanks, pumps and plumbing inside watertight secondary containment. Check tanks and pumps for integrity.

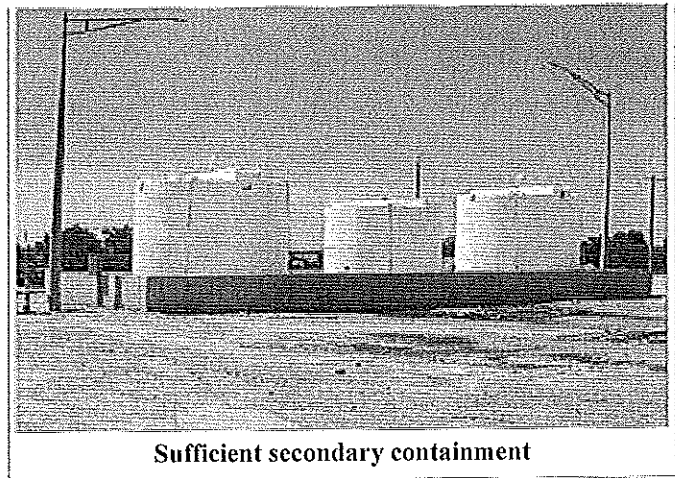
Acceptable Solutions

1. Berm of clay, concrete, synthetic liner or impervious material with drainpipe and closed lockable valve.
2. Locate snow control chemical tanks including pumps and plumbing inside existing buildings where available and provide secondary containment.
3. Construct secondary containment structure for snow control chemical tanks including pumps and plumbing.





Unacceptable - everything needs containment



Acceptable

172.8 Hazardous Waste Disposal

Citation: 40 CFR Subchapter I, Federal Hazardous Waste Management Law (<http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol27/xml/CFR-2012-title40-vol27-part261.xml>) ; Sections 260.350 to 260.430 RSMO (<http://www.moga.mo.gov/mostatutes/stathtml/26000004251.html>) ; 10 CSR 25 Chapter 5 (Rules Applicable to Generators of Hazardous Waste) (<http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c25-5.pdf>)

Performance Expectation

Ensure that all the materials are usable and do not become “waste”, which would create an environmental liability.

Performance Measure

Identify unusable materials and chemicals and contact your district environmental point person and environmental specialist for proper handling or disposal. Contact your district environmental specialist to assist with materials that cannot or will not be used at a MoDOT facility.

Acceptable Solutions

1. Control Inventory – order only one to two years worth of materials.
2. All containers storing unknown material should be sampled and characterized for proper handling and disposal by an environmental specialist.
3. If usable material (chemicals, paints, etc.) cannot be used at a lot, it should be shared with or given to another MoDOT facility that can utilize the materials.
4. All known or unknown materials not currently used (chemicals, paints, etc.), which cannot be used by other MoDOT facilities or that are out-of-date and no longer usable, must be disposed of at a permitted hazardous waste disposal facility (contact your district environmental specialist for assistance).

5. Do not move hazardous waste to another location (contact your district environmental specialist for assistance).

Note: Do not dump any product on the lot to dispose of the material. Refer to the MoDOT "Environmental Standard Operating Procedures for Sale of MoDOT Property" for guidance when selling excess materials or chemicals.



Drums of material improperly stored and not all containers are labeled

Unacceptable



Drums properly labeled and stored on secondary containment

Acceptable



Inventory control is a must to reduce the amount of waste generated

Acceptable for district distribution

172.9 Drains

Citation: 10 CSR 20-6.010 (<http://sl.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>) Missouri Clean Water Law and Regulations (Construction and Operating Permit)

Performance Expectation

Facilities with floor drains in the maintenance bays that are not plumbed to a public sewage system shall be closed to prevent water from entering the environment or corrected with a connection to an approved alternative.

Performance Measure

All systems not connected to an approved holding tank or public sewage system must be closed.

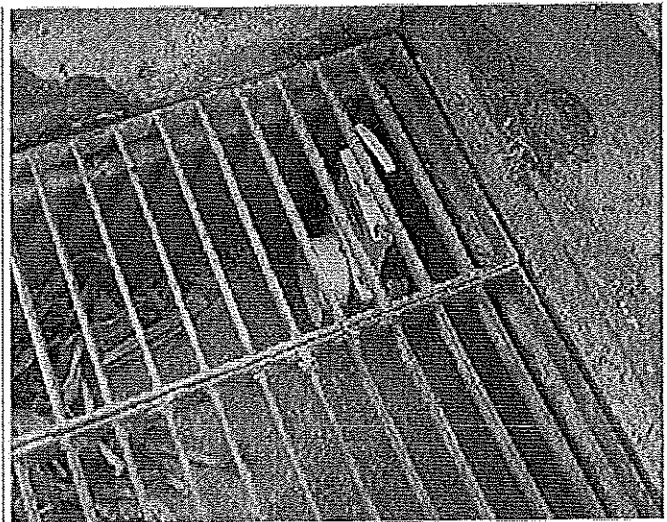
Acceptable Solutions

1. Connect all floor drains to an oil / water separator and public sanitary sewer system where possible. For facilities where floor drains are not connected to a public sanitary sewer system, the facility must plug, seal or otherwise prevent discharge from the floor drains.
2. Connect floor drains to a holding tank and have contents removed by waste hauler.
3. An oil/water separator can be used as a holding tank or prior to a holding tank.



Floor drain discharges to road ditch

Unacceptable



Floor drain plugged and cleaned out by septic hauler

Acceptable

172.10 Spill Prevention Control Countermeasure (SPCC)

Citation: U.S. Environmental Protection Agency (EPA) Regulations (<http://www2.epa.gov/oil-spills-prevention-and-preparedness-regulations>) , Facility Diagram and Description (http://www2.epa.gov/sites/production/files/2014-04/documents/6_facilitydiagrams_2014.pdf)

Performance Expectation

All maintenance lots with 1,320 gallons of petroleum, animal or vegetable oil products storage capacity are required to have and maintain an SPCC plan at their facility.

Performance Measure

Bring all plans into compliance by updating the plan to fit the facility. Every five years a professional engineer reviews, signs, and stamps the plans. A link for tools to assist with SPCC plan development (<http://sharepoint/systemdelivery/MT/charterteamprojs/spccsimplication/SitePages/Home.aspx>) is available.

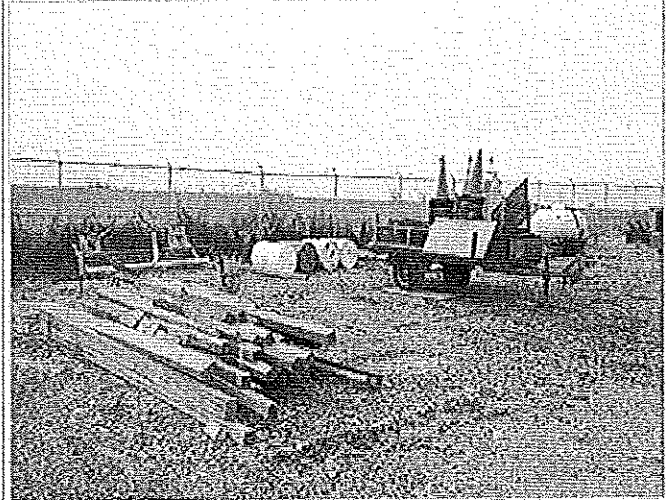
Possible Solutions

1. Provide security measures for your facility; this includes adequate lighting, gating and fencing.
2. All petroleum and oil-based material containers 55 gallons or greater must have secondary containment.
3. Containers with double walls need containment for the pumps and plumbing for the contents of the container.
4. Maintain annual personnel training and monthly facility inspections.
5. Maintain equipment, tanks and containment to prevent spills.



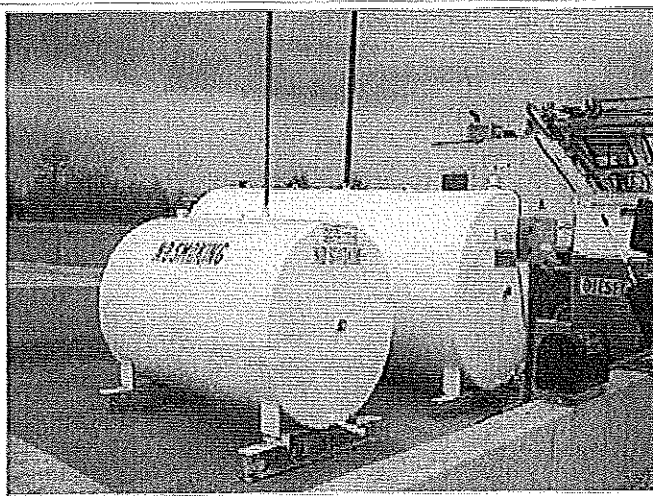
No fence in front though there was barbed wire fence on other three sides

Unacceptable



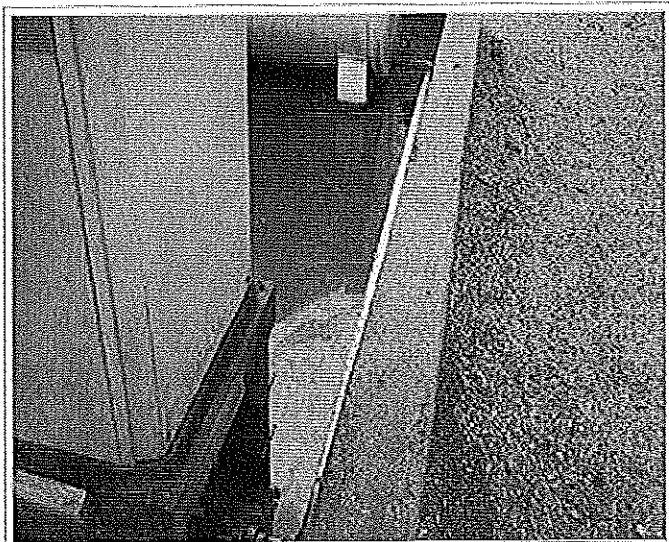
This site was fenced on all four sides with chain link fence

Acceptable



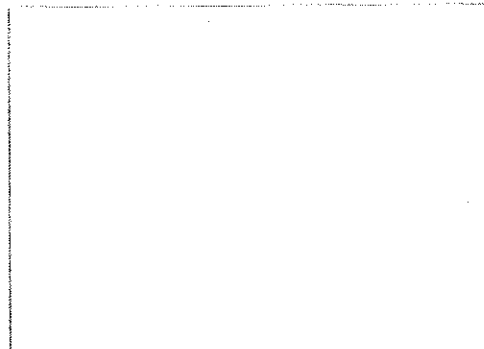
Clean containment, painted tanks, locked valves and covers, smaller tank properly closed with date on label and tanks off the floor of the containment. The date and amount of water drained is to be recorded in the SPCC plan

Acceptable



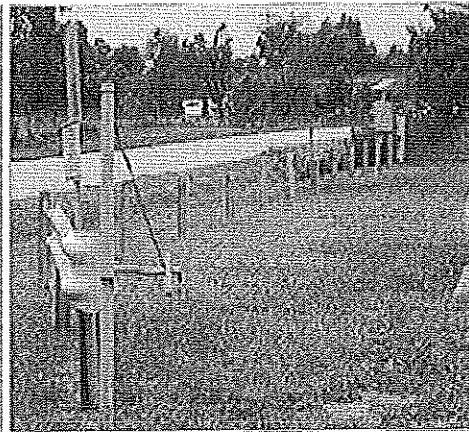
All trash and debris should be cleaned out and properly disposed of and be seen absorbed off the water before it is drained

Unacceptable





Unacceptable



Cable fencing system

Acceptable

Lockable gates

Acceptable

172.11 SPCC and Various Statewide Issues

Citation: U.S. Environmental Protection Agency (EPA) Regulations (<http://www2.epa.gov/oil-spills-prevention-and-preparedness-regulations>) , Solid Waste Management Law in Sections 260.200 through 260.345 RSMo (<http://www.moga.mo.gov/mostatutes/stathtml/26000002001.HTML>) , Facility Diagram and Description (http://www2.epa.gov/sites/production/files/2014-04/documents/6_facilitydiagrams_2014.pdf)

Performance Expectation

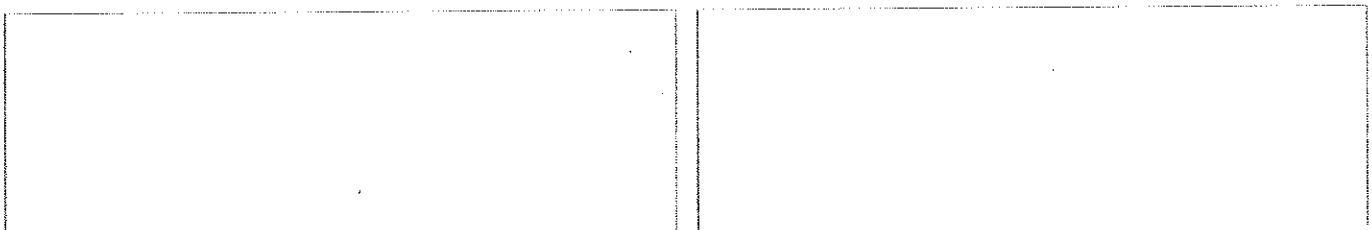
Keep all materials organized and the facility clean of debris.

Performance Measure

Perform routine inspections to identify problem areas. Maintain training to keep in compliance with SPCC regulations

Requirements

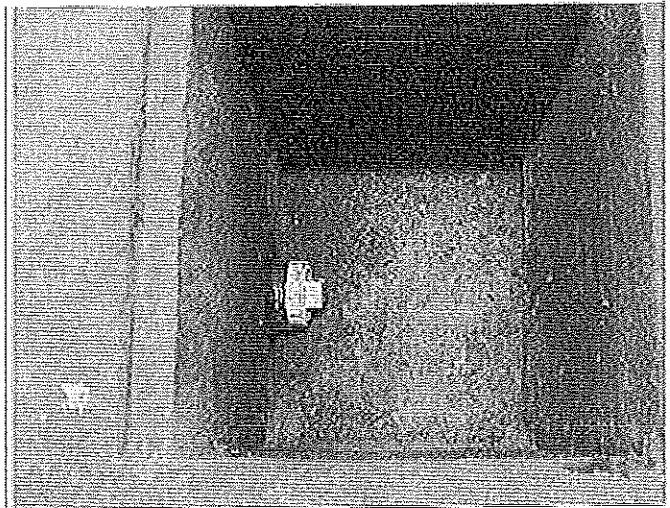
1. Maintain the spill kits and store them near fuel islands for easy access during on-site spill events.
2. When any petroleum tank is taken out of service, it should be label "Closed", with date of closure, and valves and ports are to be closed and locked. See picture in SPCC section.
3. Asphalt hoses need collection or containment rather than being allowed to drain onto the ground.
4. Facilities with oil/water separators need to have these scheduled for regular clean out.
5. Parts washing solvent should be converted to the Zep® solvent or other non-hazardous equivalent.





Keep absorbent in a convenient location

Acceptable



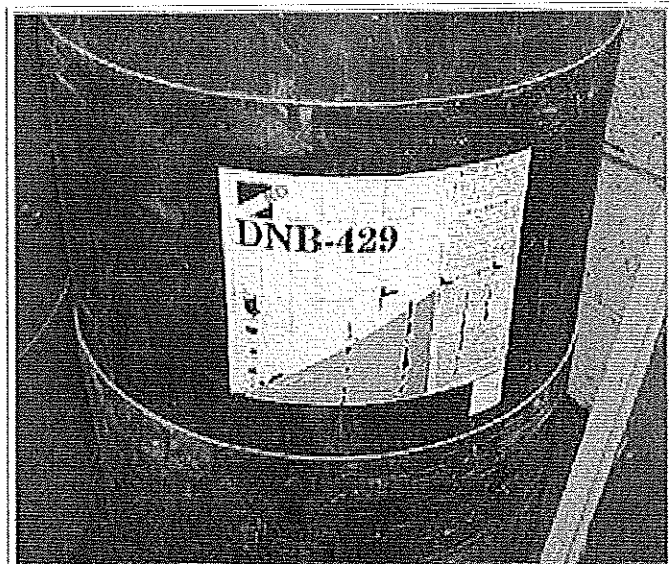
Plug floor drains not connected to a public wastewater treatment plant

Acceptable



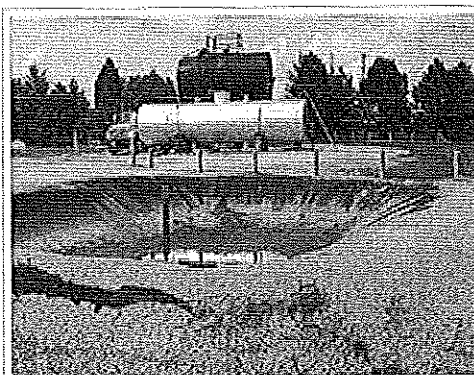
Proper solid waste storage. Area is picked up, waste is segregated, area clean and easily maintained with walls and floors

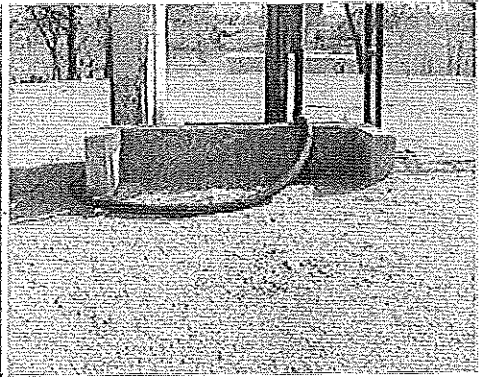
Acceptable



Drum properly labeled and stored in secondary containment. Need to protect the labels

Acceptable



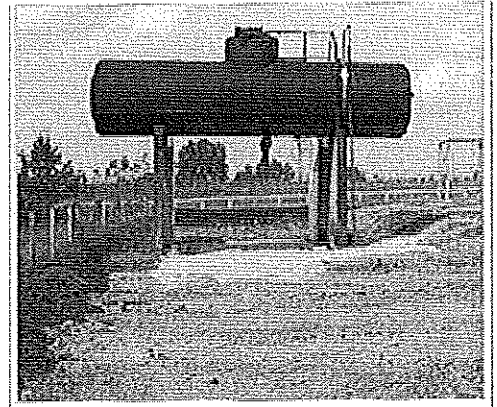


The hose drains into the concrete containment and cleaned up for use as product or it can be collected in a bucket or drum to be used as intended

Acceptable

Maintained collection basin system that provides secondary containment

Acceptable



Earth berm for tank and distributor

Acceptable

172.12 SPCC and Portable Tank Storage

Citation: U.S. Environmental Protection Agency (EPA) Regulations (<http://www2.epa.gov/oil-spills-prevention-and-preparedness-regulations>) , Facility Diagram and Description (http://www2.epa.gov/sites/production/files/2014-04/documents/6_facilitydiagrams_2014.pdf)

Performance Expectation

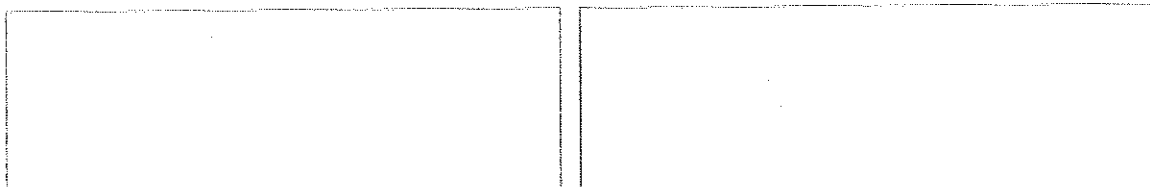
When a portable tank is in storage for future use it must be in secondary containment.

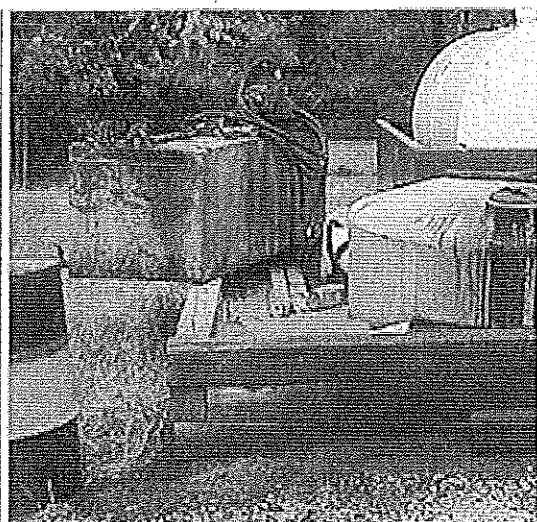
Performance Measure

Perform routine inspections of portable tanks to identify problem areas. Maintain training to keep in compliance with SPCC regulations.

Requirements

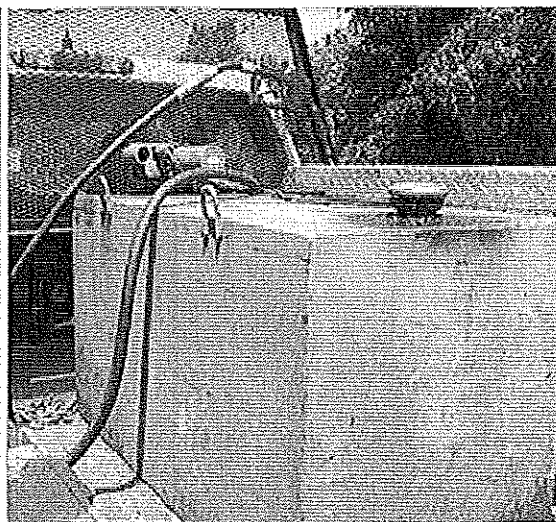
1. Containment must be large enough to hold the volume of the tank if stored inside and large enough to hold the volume plus a 25-year rain event if stored outside. Even if the tank is empty it must be in containment.
2. Containment must be made of material compatible with the tank contents and impervious to leakage in the event of a leak until it can be cleaned up.
3. The tank must be kept painted and visually inspected for rust and damage.
4. If a portable tank is taken out of service, it should be label "Closed", with date of closure, pumps removed, and valves and ports are to be closed and locked.





Outside a vehicle requires secondary containment

Unacceptable



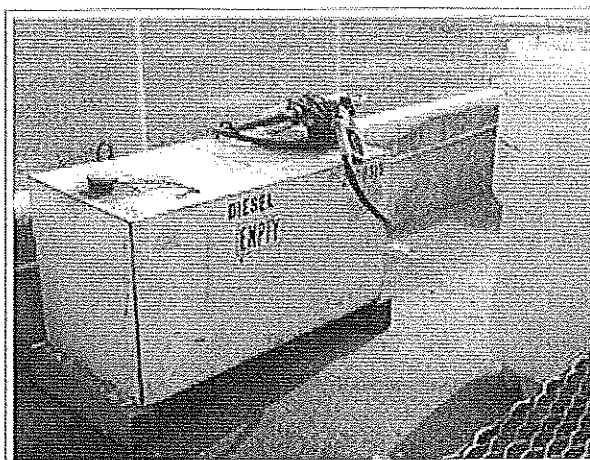
In use in vehicle no secondary containment required

Acceptable



If it is going to be closed it needs to have the pump and valves removed and all fill ports

Unacceptable





The tank needs to be placed into secondary containment and it can be placed on a rack in secondary containment to avoid using containment

Acceptable

Retrieved from "http://epg.modot.mo.gov/index.php?title=Category:172_Maintenance_Facility_Performance_Expectations_Environmental_Compliance"

- This page was last modified on 3 December 2015, at 11:58.

 Risk & Benefits Management Safety Policy Manual	<u>Title</u>	Spotter	
	<u>Effective</u>	March 1, 2014	
	<u>Supersedes</u>	July 1, 2012	

POLICY STATEMENT

A spotter should be used to minimize risks when performing work involving the operation of both heavy equipment and passenger type vehicles in congested/tight areas and/or when backing hazards are present.

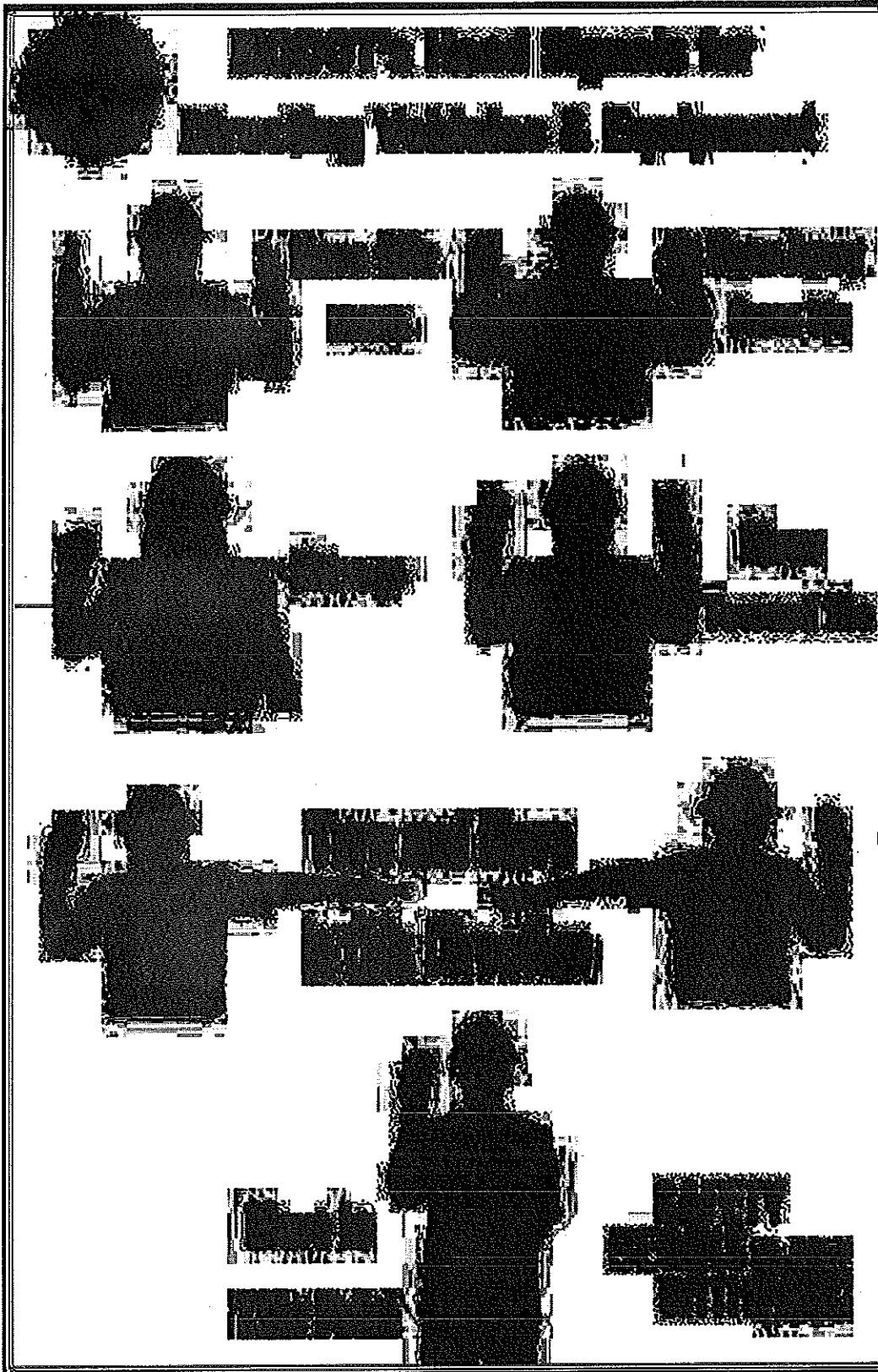
DEFINITIONS

Nighttime hours - one-half hour before sunset to one-half hour after sunrise.

POLICY REQUIREMENTS

Spotting can be hazardous for both the spotter and the driver of the vehicle. The following policy requirements are necessary to avoid injuries and damage to property.

1. The spotter shall be visible to the driver at all times. Should eye contact be broken, the driver is to cease backing immediately and resume the activity only when the spotter is again visible in the mirror.
2. The spotter shall be fully aware of their surroundings at all times. They should follow the movements of the backing vehicle, as well as any other moving vehicles in the immediate area.
3. The spotter shall keep sufficient distance between the backing vehicle and his/her standing position to avoid being struck by the backing vehicle.
4. The spotter should always use uniform hand signals that the spotter and driver understand. Pre-work meetings shall be conducted to communicate approved hand signals for all affected employees on that job.



PROCEDURES

1. When it is determined that a spotter is required for work areas or activities the following procedures apply:
 - a. Hold a pre-work meeting with all involved employees to outline and review the procedures and safety items required for the tasks assigned.
 - b. Upon entering the work area, all vehicle and equipment drivers/operators should look for an available person to spot for them.
 - c. Minimize work that should be done by workers on foot near moving vehicles and equipment.
 - d. Employees on foot should maintain a safe minimum distance from moving vehicles and/or equipment.
 - e. Define blind spots and prohibit employees on foot from entering these areas.
 - f. Spotters should be designated and advised to look at the side mirrors of the backing vehicle or equipment; if they cannot see the driver in one side of the mirrors, they are in a blind spot.
 - g. The vehicle or equipment driver/operator and spotter shall maintain continuous visual or verbal contact. If the vehicle or equipment operator/driver loses sight or communication with the spotter, they shall STOP IMMEDIATELY!
 - h. Vehicle and equipment drivers/operators should have the windows rolled down.
 - i. Drivers/operators should have the two-way radios and cell phones off, unless the two-way radio or phone is being used as a communication device with the spotter.
 - j. No one shall be texting with or otherwise operating or viewing a cell phone or other personal data device during a spotting or backing task.
 - k. Drivers/operators shall always obey the signal of the spotter and never back up or move in congested areas without the spotter indicating the path is clear.
 - l. The spotter should stand alone.
 - m. The spotter should use large exaggerated motions with both hands and/or arms in order to spot and direct the vehicle or equipment driver/operator.
 - n. The spotter should be aware of the area's hazards for the vehicle, equipment and spotter.
 - o. The spotter should be aware of other hazards including, pinch points around the vehicle and equipment they are spotting, other vehicles and equipment, utility poles, trees, etc.
 - p. The spotter should always have an escape route.
 - q. The spotter should use an air horn when working in congested and restricted areas with reduced visibility, high noise or other hazardous conditions.
 - r. Spotters, drivers/operators are expected to take whatever reasonable action is necessary to prevent vehicles from hitting anything or anyone.
2. Spotter procedures at night: Spotting operations during nighttime hours have an increased risk due to the reduced lighting.

- a. Additional work site lighting should be provided to allow the spotter to be more easily seen where spotting activities will be planned. Actions should be taken to ensure the spotter is more easily seen during nighttime hours (i.e. Class III, high visibility apparel).
- b. During nighttime spotting operations, the spotter should use a flashlight.
 - i. The spotter should not blind the equipment operator by shining their flashlight in the side/rearview mirrors.

TRAINING

1. Gear Up - Dump Truck Training (LMS#-24487) to be completed within the first week of hire.
2. Gear Up - Basic Safety Training (LMS# 24492) to be completed within the first week of hire.
3. Gear Up – Front End Loader Training (LMS# 24488) to be completed within the first week of hire.

CROSS REFERENCES

Risk Management - Backing Policy (in update process)
Safety Apparel Policy

Policy 2500

From Human Resources

PERSONNEL POLICY MANUAL

MoDOT Personnel Policy Title: Standard Rules of Conduct

Policy Number: 2500 Chapter Title: Employee Conduct

Effective Date: September 1, 2015

Supersedes Policy Number: 2500 Dated: April 16, 2013

Approved By: Micki Knudsen, Human Resources Director

(Signature on file)

Contents

- 1 POLICY STATEMENT
- 2 DEFINITION:
- 3 PROVISIONS / REQUIREMENTS
- 4 STANDARD RULES OF CONDUCT
- 5 CROSS REFERENCES

POLICY STATEMENT

The department believes certain conduct may disrupt the work environment; may cause safety problems for employees and the general public; may discredit the department; and may undermine the integrity of department goals. The department has developed this policy specifically to address behavior violations and other types of conduct believed not to be in the best interest of the department. This policy is not intended to include all violations that could result in discipline. Violation of these rules can result in discipline up to, and including, termination.

DEFINITION:

Incident: An action or lack of action that results in personal injury and/or property damage.

PROVISIONS / REQUIREMENTS

1. Employees are responsible for knowing and adhering to the rules of conduct established by the department and for acting in accordance with MoDOT's values.
2. Supervisors and managers are responsible for educating, monitoring, and keeping employees in their areas informed of department rules of conduct.
3. Districts/divisions/offices are responsible for determining if an employee's conduct should result in immediate dismissal, or an appropriate discipline administered according to the policy referenced herein and in Personnel Policy 2600, "Performance/Conduct Intervention."
4. Districts/divisions/offices are responsible for notifying the Human Resources Division immediately of potential claims of discrimination, sexual harassment, or retaliation.
5. All MoDOT employees are responsible for preventing, detecting and reporting fraud, waste, abuse and other illegal acts. All employees must promptly report acts of fraud, waste, abuse and other illegal acts to the Audits and Investigation (AI) Division. Employees shall not intentionally make false allegations of fraud, waste, abuse or other illegal acts. Retaliatory acts against employees reporting suspected fraud, waste, abuse or other illegal acts or those cooperating with an investigation by the AI Division are prohibited by Personnel Policy 2104, "Appeal Procedures for Alleged Adverse Employment Actions Resulting From Whistleblower Reporting."
6. An employee or the department is free to terminate the employment relationship at-will, with or without cause, and at any time. As an at-will employer, the department reserves the right to add to or subtract from the rules outlined in department personnel policies and procedures and has the exclusive authority to review the circumstances surrounding each infraction on an individual basis.
7. During investigations conducted by department supervisors, employees will not be allowed to have another person present, including legal counsel, when being asked for information related to their behavior or potential violations of department policies or law. When the AI Division conducts investigations, and the potential exists for criminal charges to be brought against employees, these employees will be allowed to have an attorney present for legal counsel, while being questioned by the investigator for the AI Division.
8. Felony Charge (see number 10 listed under Standard Rules of Conduct).
 - A. An employee charged with a felony of any kind must immediately report it to his/her supervisor and promptly provide a copy of charge(s) filed to the local human resources manager. The supervisor will consult with the Human Resources Director and the relevant district engineer or division leader/state engineer to determine whether termination or suspension pending further investigation into the charge(s) is warranted under the circumstances.
 - B. If it is determined that a suspension is warranted pending further investigation or disposition of the charge(s), the employee will immediately be suspended without pay. However, an employee may elect to use a portion or all of his/her accrued annual leave and/or compensatory time during this suspension. This time must be used consecutively, not intermittently. Any time paid will be creditable/credited service in the retirement system. If the employee does not have accrued leave available to cover his/her absence during this suspension, life, disability, and medical insurance will continue to be available, but without state participation.

C. An employee suspended pending the outcome of further investigation into the charges must keep his/her supervisor and human resources manager informed about the status of the charges throughout the process and must provide information regarding the final disposition of charges to his/her supervisor and human resources manager within three days of disposition.

D. A suspended employee may be allowed to return to work after further investigation or after the disposition of the charge(s), unless the district/division/office in consultation with the human resources director determines at any point during the investigation into the charge(s) and prior to the employee's return that the employee's return is not in the best interest of the department.

E. An employee who is not terminated or suspended pending the outcome of further investigation into the charge(s) must keep his/her supervisor and human resources manager informed about the status of the charge(s) throughout the process and must provide information regarding the final disposition of charge(s) to his/her supervisor and human resources manager within three days of disposition. The district engineer/division leader/state engineer, in consultation with the human resources director, will determine whether any further action is warranted based upon the final disposition of the charge(s).

F. An employee convicted of a felony charge involving the use of controlled substances will be released from employment and will not be eligible for reemployment with the department for at least two years from the date of release, and only then if he/she shows proof of completion of a state certified drug rehabilitation program.

G. No back pay will be awarded to an employee allowed to return to work after suspension as noted above.

9. Misdemeanor Conviction regarding Controlled Substances (see number 10 listed under Standard Rules of Conduct).

A. An employee convicted of a misdemeanor regarding controlled substances must immediately report the conviction to his/her supervisor and promptly provide a copy of charges and conviction documents to the local human resources manager. For a first time conviction an employee will be given an opportunity to successfully complete a state certified drug rehabilitation program. An employee must begin this program within fourteen calendar days of being told in writing to attend a rehabilitation program.

B. Refusal or failure to begin rehabilitation within fourteen calendar days of notice to the employee will result in release from employment.

C. Failure to successfully complete the required drug rehabilitation program will result in a suspension without pay of at least 40 hours and a requirement to reenter a drug rehabilitation program within fourteen calendar days or be released from employment. Failure to complete this program will result in release from employment.

D. An employee released from employment for a misdemeanor conviction involving the possession or use of controlled substances including the failure to begin/complete drug rehabilitation will not be eligible for reemployment with the department for at least two years from the date of release and only then if he/she shows proof of completion of a state certified drug rehabilitation program.

E. An employee convicted of a misdemeanor charge involving the possession or use of controlled substances for a second time while employed with a state agency will be released from employment.

STANDARD RULES OF CONDUCT

To ensure compliance with this policy, an employee shall not:

1. Engage in conduct that is inconsistent with MoDOT values or behave in a manner that brings or could bring undue criticism toward the department or its employees or operations.
2. Violate Personnel Policy 2503, "Communications and Information Systems."
3. Use a personal cell phone:
 - A. For an excessive amount of time for personal calls during work time.
 - B. To take photos or movies of co-workers on the job without the co-workers' permission.
 - C. To show/forward inappropriate text, pictures, movies, etc., to co-workers or anyone else on department property during work time or during breaks or lunch time during the workday.
4. Violate Personnel Policy 2507, "Drug-Free Workplace Act."
5. Perform assigned duties while drug impaired or violate other provisions of Personnel Policy 2508, "Drug Testing Program."
6. Violate Personnel Policy 2509, "Driving Privileges."
7. Report for work under the influence of alcohol, consume alcohol on the job, or violate provisions of Personnel Policy 2511, "Alcohol Testing Program."
8. Be insubordinate to a supervisor.
9. Violate Personnel Policy 2512, "Workplace Security."
10. Be charged with a felony of any kind or be convicted of a misdemeanor or felony charge involving the possession or use of controlled substances. A plea of nolo contendere (i.e., no contest) a guilty plea, or an admission to a felonious act(s) will be treated the same as a conviction.
11. Violate federal or state antidiscrimination, retaliation, harassment, or sexual harassment laws, or violate department antidiscrimination, retaliation, harassment, or sexual harassment policies or directives.
12. Violate Personnel Policy 2514, "Conflict of Interest."
13. Violate traffic laws or disregard or violate existing safety rules (as defined in MoDOT Safety Policies or Procedures or relevant operational and training manuals), which could endanger the health and safety of the employee, a coworker, or the general public. The district safety representative will assist in the interpretation or clarification of matters involving safety policies, rules and regulations. Such violation may include but not be limited to the following:
 - A. Falsification of incident reports and/or failure to report an incident within the required reporting guidelines.

- B. Refusal to obey a clear and proper order or directive to follow a prescribed safety policy, rule or regulation.
- C. Alcohol or drug use, which is directly involved in the causation of an accident.
- D. Any employee in a position of authority who fails to enforce or support department safety policy, rules, or regulations.
- E. Incidents caused directly by an employee's disregard for or violation of an existing safety policy, rule or regulation as determined by the district safety officer and the respective supervisory personnel.
- F. Failure to use department prescribed personal protective equipment when required to do so, including the failure to use seat belts while in a department or personal vehicle when conducting MoDOT business or while operating department equipment.
- G. Inappropriate operation of department vehicles or equipment, which could or does result in an incident.
- H. Use of personal or department owned communications equipment to write, send, open, or read text messages while operating department owned vehicles/equipment or while operating a personal vehicle for official department business.
- I. Horseplay or carelessness that could or does result in an incident.

14. Misrepresent or omit information on the "Application for Employment" form or inserts, including relatives working for the department, educational attainments, work history, professional credentials, or any document submitted that the department utilizes in providing employment or in making employment decisions regarding the employee such as promotions, etc.

15. Provide false information, misrepresent information, or omit relevant information on work-related documents including but not limited to: expense reports, data collection/reporting, medical, physician or health documentation submitted to the department in connection with the employee's job, time sheet information, and invoices for department cell phone charges.

16. Knowingly make false accusations against other employees or knowingly make false statements during the course of a department authorized investigation. Refuse to provide or disclose requested or relevant information to individuals conducting a department authorized investigation or individuals defending the department, the Commission or department employees in any hearing, claim, action, lawsuit, or cause of action.

Breach confidentiality by sharing information with anyone other than those individuals conducting a department authorized investigation or defending the department, the Commission or department employees, except as permitted by law, in regards to either a past or active investigation or defense of the Department/Commission as it pertains to a hearing, claim, lawsuit or cause of action without prior authorization from the AI Director.

17. Use any type of recording device to record any MoDOT employee or Missouri Highways and Transportation Commission (MHTC) member's work-related statements or actions outside of work; or record any statements or actions, work-related or not, at the workplace, worksite, or during work hours without the knowledge and consent of the individual(s) being recorded, or without the express written authorization of the AI Director.

18. Use any type of recording device to record any MoDOT or MHTC meeting, training session, or telephone call without the knowledge and consent of the individual(s) being recorded, or without the express written authorization of the AI Director.

19. Violate the following Vehicle or Equipment Usage rules:

MoDOT provides vehicles to employees of the department and the MHTC to conduct official business. The appropriate use and care of vehicles and equipment is required of the department and employees. State vehicles and equipment should be utilized for state business only. It is permissible, however, to use vehicles for reasonable travel to meals or other necessities while on state business. While in overnight travel status, it is permissible to use state vehicles for reasonable travel to meals or other activities. Travel after working hours shall be done using good judgment to avoid public criticism. Employees should discuss what is reasonable, with regard to such use, with their supervisors, prior to using a vehicle.

The following are the responsibility of each employee:

- A. Obey established speed limits and traffic regulations.
- B. Do not operate department owned or leased vehicles or equipment while consuming, while under the influence of, or within four hours after consuming alcoholic beverages or other drugs/medications which may impair judgment.
- C. Operate the vehicle or equipment in a prudent and courteous manner.
- D. Operate the vehicle or equipment with the proper license.
- E. Review Personnel Policy 0504, "Vehicle Usage and Liability" for additional vehicle usage instructions.

20. Take department property or any other item not belonging to him/her for his/her own or another's use. This includes property regardless of the condition of the property or whether the department has a need for such property.

21. Fail to comply with the statutory requirements for state employment including those outlined in Sections 105.262 and 105.1213 of the Revised Statutes of Missouri (RSMo). (See Personnel Policy 0519, "Background Checks.")

CROSS REFERENCES

Personnel Policy 0504, "Vehicle Usage and Liability"

Personnel Policy 0519, "Background Checks"

Personnel Policy 2503, "Communications and Information Systems"

Personnel Policy 2507, "Drug-Free Workplace Act"

Personnel Policy 2508, "Drug Testing Program"

Personnel Policy 2509, "Driving Privileges"

Personnel Policy 2511, "Alcohol Testing Program"

Personnel Policy 2512, "Workplace Violence"

Personnel Policy 2514, "Conflict of Interest"

Personnel Policy 2600, "Performance/Conduct Intervention"

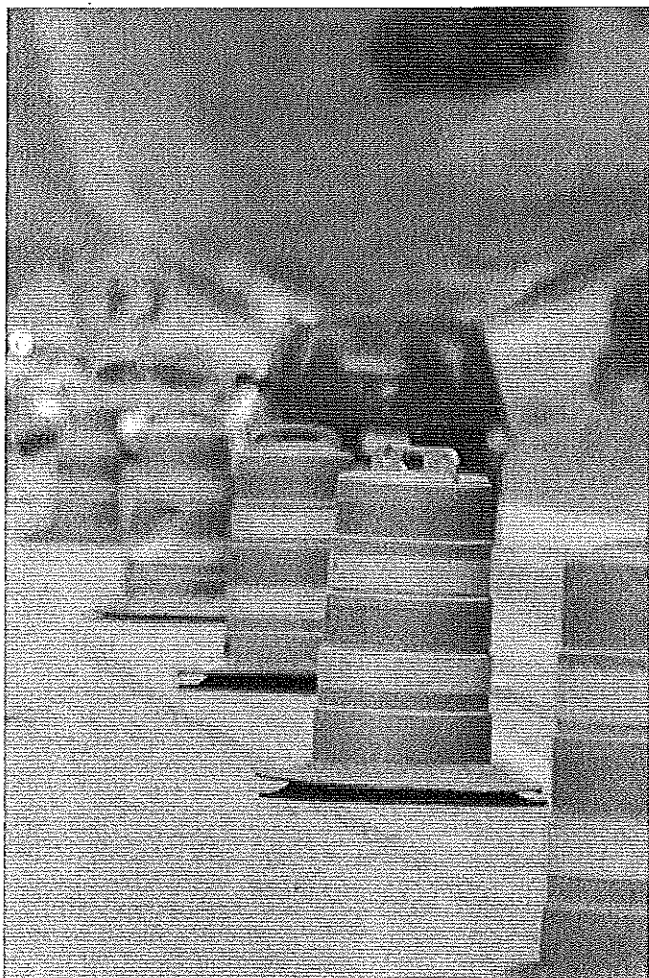
MoDOT Safety Policies and Procedures (<http://sharepoint/safety/csp/SitePages/Safety%20Policies%20and%20Procedures.aspx>)

Retrieved from "http://hr.modot.mo.gov/index.php/Policy_2500"

- This page was last modified on 1 September 2015, at 15:21.

Category:616 Temporary Traffic Control

From Engineering Policy Guide



Temporary traffic control devices warn motorists of hazards, advise the proper path through the work area, delineate areas where travelers may not operate and separate them from workers and opposing traffic.

Whenever worn or damaged devices appear in a work zone, the general quality of the work zone deteriorates. To avoid this, MoDOT has provided quality standards for temporary traffic control devices.

To provide uniform flagging and to train employees how to protect themselves, co-workers and travelers, MoDOT requires flagger training.

Every day MoDOT has many work zones

Attention to the safety (<http://www.modot.mo.gov/safety/>) of travelers is especially important in work zones (<http://www.modot.mo.gov/workzones/index.htm>).

The workspace is the area closed to traffic and set aside for workers, equipment and material. Work zone signing items such as regulatory signs and Type III Movable Barricades and other work zone items such as Changeable Message



Law Enforcement

Signs, flashing arrow panels, channelizing devices, lighting devices and signals are specially designed to minimize risk to workers and travelers. Pavement edge treatment is frequently included in work zones as are practices such as crossovers, temporary connections and detours.

The work zone duration and location of work are discussed in this article. There are many aspects to be considered when inspecting construction quality and this article provides construction inspection guidelines.

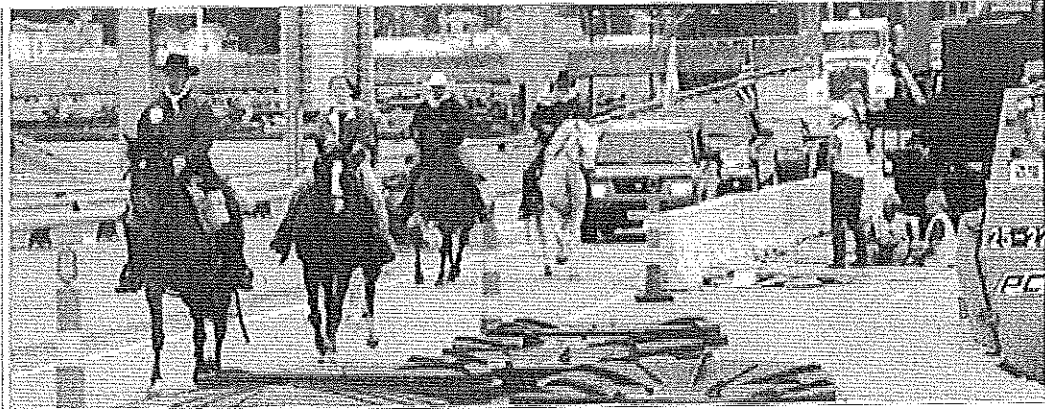
Work Zone Enhancement Software

Report, 2010

(<http://library.modot.mo.gov/RDT/reports/Ri07062/or10006.pdf>)

See also: Innovation Library

(<http://www.modot.gov/services/OR/byDate.htm>)



Road workers look up to see non-motorized traffic

(<http://www.modot.mo.gov/workzones/index.htm>) on Missouri's highways. MoDOT is committed to providing safe and efficient movement of both motorized and non-motorized traffic through or around temporary traffic control work zones and providing protection for workers and equipment located within these work zones. To better educate technicians and those designing and managing temporary traffic control work zones, Work Zone Technician Training, Advanced Work Zone Training, MoDOT Work Zone Guidelines and Work Zone User Training is available.

This article also provides law enforcement services, traffic control for non-motorized traffic and transit considerations.

Traffic Control for Field Operations, contains information on temporary traffic control measures.

Work Zone Customer Survey
(<http://www.modot.mo.gov/workzones/Comments.htm>)

Traffic has developed the Work Zone Customer Survey (<http://www.modot.mo.gov/workzones/Comments.htm>) to take advantage of travelers viewing MoDOT work zones. The Work Zone Customer Survey has been revised so that reviewing work zones is even easier. You can keep our work zones safe and efficient by submitting your information directly from the survey's website location or by printing, filling out and mailing the report card.

Fleet lighting guidelines are also available.

EPG articles are not referenced as "sections" but as EPG XXX.X or "articles" to avoid confusion with MoDOT specs (which are contractually binding).

Work Zone Figures			
Sign and Device Legend	Temporary truck crossing	Lane closure	Temporary road closure
Shoulder work	Lane restriction	Public road crossing another road under construction	Lane widening or addition
Lane shift	Standard Temporary Connection for Transition from Single to Dual Lane	Moving operations on highway open to traffic	Temporary connection at terminus of divided lane facilities
Traffic Control Work Zone	Sign Spacing Device Spacing	Intermediate Lane Closure	Beginning and End of Project
Side Road Tapers	A typical detour	Two-Lane Undivided Highway	

Guidance for signs in narrow
mediansOne-Lane Two-
Way Operation

Crossovers on Divided Highways

Estimate Based
Documentation Records

Articles in "616 Temporary Traffic Control"

The following 28 pages are in this category, out of 28 total.

6

6 cont.

- 616.1 General (MUTCD Chapter 6A)
- 616.2 Fundamental Principles (MUTCD Chapter 6B)
- 616.3 Temporary Traffic Control Elements (MUTCD Chapter 6C)
- 616.4 Pedestrian and Worker Safety (MUTCD Chapter 6D)
- 616.5 Flagger Control (MUTCD Chapter 6E)
- 616.6 Temporary Traffic Control Zone Devices (MUTCD 6F)
- 616.7 Type of Temporary Traffic Control Zone Activities (MUTCD 6G)
- 616.8 Typical Applications (MUTCD 6H)
- 616.9 Control of Traffic Through Traffic Incident Management Areas (MUTCD 6I)

- 616.10 Product Requirements for Temporary Traffic Control Devices, Pavement Marking and Delineation
- 616.11 Traffic Control for Waterways
- 616.12 Work Zone Speed Limits
- 616.13 Work Zone Capacity, Queue and Travel Delay
- 616.14 Work Zone Safety and Mobility Policy
- 616.15 Transit Considerations
- 616.16 Law Enforcement Services
- 616.17 Pavement Edge Treatment
- 616.18 Construction Inspection Guidelines for Sec 616
- 616.19 Quality Standards for Temporary Traffic Control Devices

6 cont.

- 616.20 Flagger Training
- 616.21 Work Zone Technician Training
- 616.22 Advanced Work Zone Training
- 616.23 Traffic Control for Field Operations
- 616.24 Traffic Control for Non-Motorized Traffic
- 616.25 MoDOT Work Zone Guidelines
- 616.26 Work Zone User Training
- 616.27 Fleet Lighting

W

- Work Zone Safety and Mobility Policy Resources

Retrieved from "http://epg.modot.mo.gov/index.php?title=Category:616_Temporary_Traffic_Control"

- This page was last modified on 15 July 2015, at 12:24.

Use of Small Tools

Only tools that are in good condition shall be used. Some of the conditions that constitute a defective tool are: burred or mushroomed heads on hammers, sledges, mauls, chisel heads, etc., and splintered, broken, rough or loose tool handles, sprung jaws, dulled edges on cutting tools, etc.

Tools that are not in good condition shall either be repaired or replaced with a new tool.

Always use the proper tool for the job. For example, do not use a wrench as a hammer or a screwdriver as a chisel.

Always use tongs when holding a bull point, front pin wedge or drill for sledging. Use only mauls or sledges for striking.

Workers shall be in proper position before using axes, hatchets, sledgehammers or similar tools. They shall have proper stance, with a firm footing, and be clear of any obstructions or co-workers.

All power cords shall be inspected for cuts, abrasions and splicing. Removal of ground prong is strictly prohibited.

Risk Management On-line Manual



Type: Safety/Health

Chapter : 2 Safety Procedures

Section: 2.10 – Safe Vehicle Recovery.

Policy and Procedures

Policy/Procedure #:

Supersedes: 1-13-12

Effective Date: February 1, 2012

Dated: 2-21-12

1.0 Purpose

The purpose of this policy is to provide uniform guidance for the internal recovery of a disabled MoDOT vehicle. A recovery or “soft tow” involves one MoDOT vehicle pulling a disabled MoDOT vehicle by use of a strap or rope. Before attempting to recover a vehicle, the following conditions and/or circumstances must be evaluated.

2.0 Guidelines

- Recovery will only be used to move a disabled vehicle a short distance. A short distance is defined as less than one hundred (100') feet. If additional distance is needed for the recovery of the vehicle, contact the supervisor or field mechanic for approval.
- The vehicle shall be capable of operating under its power after recovery. If the vehicle is not operational, then a professional towing service shall be contacted.
- The operators of both vehicles must be competent to perform the recovery.
- There shall always be an operator in the disabled vehicle while the recovery is in process. Passengers in the disabled vehicle are not allowed.
- Operators shall not be allowed in vehicles that are lying at an angle or on their sides due to tip or roll over.
- Recovery shall not be attempted if the unit is buried up to the full tire depth and/or axle depth.
- Recoveries shall not be attempted from grades or slopes greater than 3:1. If the slope is greater than a 3:1, contact a professional towing service. A 3:1 slope is equivalent to 18 degrees.

- No one shall be permitted to stand near either vehicle while the recovery is in process. All personnel shall stand clear of the path of the anchored points and/or at a distance equal to 2 times the full length of the strap/rope being used.
- The length of the strap/rope should not exceed 30ft. If additional length is needed for the recovery of the vehicle, contact the supervisor or field mechanic for approval.
- The operator of the recovering vehicle is responsible for inspecting the strap or rope and attachment devices for cuts, frays or other damage before using. **SEE THE ATTACHED INSPECTION GUIDELINES.**
- Hooks, shackles and other attachments are required to be equivalent to or greater than the Working Load Limit or Minimum Breaking Strength of the required strap, or rope utilized for the recovery.
- Loads must be as light as possible. Whenever possible, the load or materials should be removed prior to attempting the recovery.
- At least 3 of 4 points of contact of the disabled vehicle must be firmly resting on the ground or pavement. If mowing decks, trailers or other attachments are present, no more than one point of contact may be "off the ground" for the vehicle and the attachment combined.
- The only attachment points will be manufacturer provided "D" rings, pintle hitches or manufacturer approved attachment points. Attaching to other areas of either vehicle, such as bumpers, axles or frame components could cause serious damage to that vehicle and is not permitted without the approval of the field mechanic and/or supervisor.
- It is important that a slow, even pull be made. All slack must be slowly and gradually taken out of the tow strap/rope before attempting the "pull". The operator of the recovering vehicle must never attempt to "yank" the disabled vehicle.
- Safety glasses, gloves, and hard hats are required for towing activities as are other PPE per MoDOT Safety Policies (i.e. safety boots, safety vests etc).

2.1 After the Recovery

A recovery involving use of approved equipment, conditions, and authorized attachment points with no potential damage should only be reported to the supervisor.

The supervisor shall complete an E11 (Fleet Vehicle Accident Report), for vehicle/equipment damage or use of professional towing services. A recovery involving unapproved attachment points should require an inspection by a field mechanic. The recovered vehicle may be utilized for the remainder of the day prior to this inspection, if the field mechanic agrees with the org unit supervisor determination that there is no

“visible” or suspected damage and the vehicle is safe to operate. The vehicle shall be taken out of service at the end of the day and remain “out of service” until the inspection by a mechanic has been completed.

2.2 Determination of Minimum Ratings for Synthetic Straps, Kinetic Ropes and other Attachments (Working Load Limit {WLL} and/or Minimum Breaking Force/strength {MBF/MBS})

Products vary greatly in material and design construction and a general summary of acceptable products is not possible. Consult the specifications provided by the manufacturer or distributor. Do not remove ratings labels, tags, and markings from these products. Below we provide the minimum guidelines to determine the acceptable products for the various products available.

Two evaluations have been used to simplify the requirements for equipment. The first is for tractors (based on the John Deere 6430 tractor with batwing CX15 attachment) , light trucks, and other small vehicles with GVWR of 16,125 lbs or less. The second is for heavy equipment (HD or XHD dump truck) or any vehicle exceeding 16,125 lbs up to the GVWR of 58,000 lbs. For any vehicle exceeding GVWR of 58,000 lbs, or combination vehicles (dump and pump or trailer combinations) contact your GS Manager for guidance.

1. SYNTHETIC TOW STRAPS (FLAT STRAPS)

- a. Utilize manufacturer’s WLL/capacity for selecting appropriately rated equipment. Typically the manufacturer’s design safety margin from WLL to MBS/F for synthetic strap is only 2:1. If utilizing the Minimum Breaking Strength a safety margin of 2:1 shall be used as a minimum for selection of synthetic straps.
- b. Tractors, light trucks and small vehicles
 - i. WLL (capacity) - 16,125 lbs or greater
 - ii. MBS -32,250 lbs or greater
- c. Heavy equipment up to GVWR of 58,000 lbs
 - i. WLL - 58,000 lbs or greater
 - ii. MBS - 116,000 lbs or greater

2. KINETIC ROPES

- a. Kinetic ropes are favorable to the type of conditions that field maintenance personnel perform when recovering a vehicle stuck in the “mud”. Failure of kinetic ropes poses a minimum risk to personnel or equipment and as such do not require as great a safety margin. Utilize manufacturer’s specifications for selecting appropriately rated kinetic ropes when provided. If only Minimum Breaking Strength is

provided a safety margin of 1 1/4:1 shall be used as a minimum for selection of kinetic ropes.

- b. Tractors, light trucks and small vehicles
 - i. WLL - 16,125 lbs or greater
 - ii. MBS -20,160 lbs or greater
- c. Heavy equipment up to GVWR of 58,000 lbs
 - i. WLL - 58,000 lbs or greater
 - ii. MBS - 72,500 lbs or greater

3. ATTACHMENTS

- a. Utilize manufacturer's WLL of 58,000 lbs or greater for selecting appropriately rated equipment or a minimum breaking strength of 120,000 lbs or greater.
- b. Screw pin anchor shackles approved for use must meet the minimum standard - Super heavy duty 1 1/4" galvanized steel screw pin shackle; minimum breaking strength 120,000lbs or greater.
- c. Heavy duty grade 80 (7/8") or 100 (3/4") alloy chain with minimum breaking strength 120,000 lbs or greater, no longer than 8 feet in length may only be used as an attachment device.

3.0 SYNTHETIC STRAP, KINETIC ROPE & OTHER ATTACHMENT INSPECTION CRITERIA

3.1 GENERAL

- Do not use a damaged rope, strap or other attachments
- Avoid dragging the ropes or straps
- Do not tie knots
- Do not attach to bumpers
- Avoid contact with hot exhaust systems
- Attachment points must be suitable for the application; detached connection points can be deadly projectiles
- Never stand near or in line of a strap under tension
- Avoid edges or surfaces that could damage the strap, and use wear protection when necessary
- Store in a cool, dark, dry location, which is free of environmental and mechanical damage

3.2 SYNTHETIC WEBBING/STRAPS

Utilize specific manufacturer inspection criteria as provided. Additionally remove the equipment from service if:

- Acid or caustic burns
- Melting or charring of any part of the sling
- Snags, holes, tears, or cuts

- Broken or worn stitches
- Excessive abrasive wear
- Knots in any part of the sling
- Wear or elongation exceeding the amount recommended by the manufacturer
- Excessive pitting or corrosion, or cracked, distorted, or broken fittings
- Other visible damage that causes doubt as to the strength of the sling

3.3 KINETIC ROPE

Utilize specific manufacturer inspection criteria as provided. Additionally remove the equipment from service if:

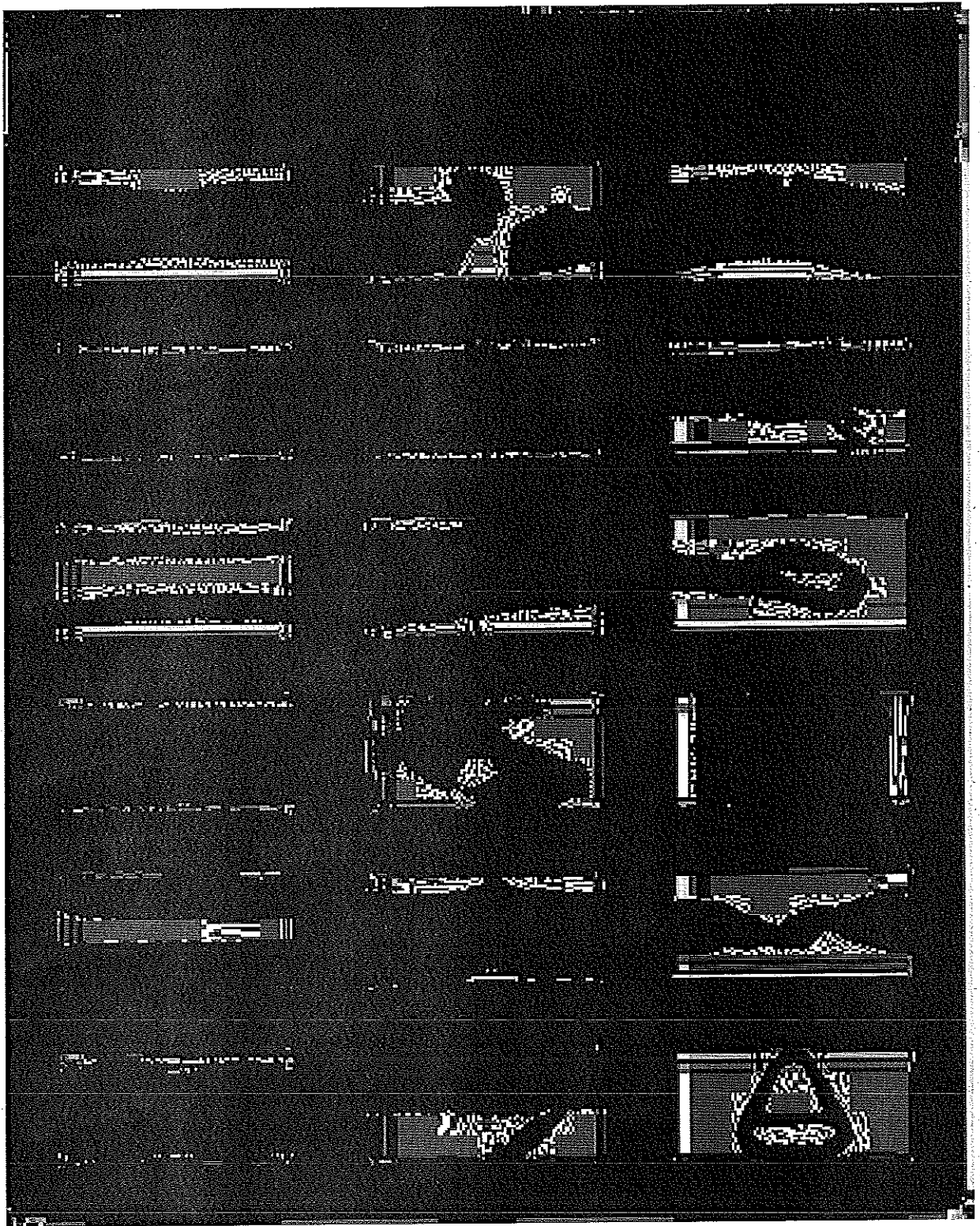
- Broken or cut fibers, either internally or externally
- Cuts, gouges, abrasions; seriously or abnormally worn fibers
- Powdered fiber or particles of broken fiber inside the rope between the strands
- Variations in size or roundness of strands
- Discoloration or rotting; weakened or brittle fibers
- Excessive pitting or corrosion, or cracked, distorted, or broken fittings
- Kinks
- Melting or charring of the rope
- Other visible damage that causes doubt as to the strength of the rope

3.4 HOOKS, SHACKLES AND OTHER ATTACHMENTS

Utilize specific manufacturer inspection criteria as provided. Additionally remove the equipment from service if:

- Hooks that have been opened more than 15% of the normal throat opening (measured at the narrowest point) or twisted more than 10% from the plane of the unbent hook
- Deformed master links and coupling links
- Assemblies with cracked hooks or other end fittings
- Excessive pitting or corrosion, or distorted or broken fittings
- Other visible damage that causes doubt as to the strength of the attachment

For more information on safe recovery of a MoDOT vehicle, contact your General Services or District Safety and Health Manager.



Ventilation

To prevent danger from carbon monoxide gas poisoning and exposure to potential carcinogens, mechanics or operators shall not run or idle vehicle motors while in a storage building or garage unless building windows and doors are open or exhaust fumes are carried away by means of a suction ventilating system.

Paint spray booths shall be constructed and maintained with the appropriate exhaust fans and motors.

Exhaust fans shall be maintained according to manufacturer's recommendations.

Smoking is prohibited in the vicinity of paint booths.

A fire extinguisher shall be mounted near the paint booth.

Painting done in other areas must have adequate ventilation.

GENERAL SERVICES >> FLEET

Fleet Policies

Please refer to the MoDOT Policy Manual for the current fleet policies and procedures.

Fleet Related Policies

Personnel Policy 0504 - Vehicle Usage and Liability

Fleet vs Non fleet Definitions and Guidelines

Fleet vs Non Fleet

Fleet Lighting FAQs

FAQ Fleet Lighting

Fleet Lighting Guidelines EPG 616.27

includes lighting levels, conspicuity tape, warning lights and aerial equipment

Policy 3000

From Human Resources

PERSONNEL POLICY MANUAL

MoDOT Personnel Policy Title: Working Hours and Overtime

Policy Number: 3000 Chapter Title: Working Hours

Effective Date: November 1, 2013

Supersedes Policy Number: 3000 Dated: April 16, 2013

Approved By: Micki Knudsen, Human Resources Director
(Signature on file)

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- 2 PROVISIONS/REQUIREMENTS
- 3 CROSS REFERENCES
- 4 FORM

POLICY STATEMENT

The department has established a uniform workweek for department employees and will provide earning of overtime for non-exempt positions as provided in the Fair Labor Standards Act (FLSA). The department will provide compensation for overtime to eligible exempt positions as stated in this policy. The department will also allow employees opportunities to adjust their work schedules, with their supervisor's approval. Supervisors will need to ensure their units are meeting their business operation needs, as well as the department's needs, when deciding whether or not to approve requests for work schedule changes.

PROVISIONS/REQUIREMENTS

WORKING HOURS AND FLEX SCHEDULES

1. The workweek begins at 12:00 a.m. Sunday and ends at midnight the following Saturday night. The normal work schedule for most employees is five 8-hour days, Monday through Friday. Except for occasional variances, core hours for most employees will be 8:30 a.m. to 3:00 p.m. Special conditions may require a different schedule, such as four 10-hour days. If one or more days are observed as a holiday, the work schedule will be reduced by eight hours for each holiday observed.

2. Work schedules each week (i.e. Monday-Friday, Tuesday-Friday, etc.) within the SAM II HR/Payroll System (SAM II system), for time reporting purposes, will be determined for each employee. These schedules will be based upon the number of days they will normally work each week, the number of hours they will normally work each shift, and when their regular hours are scheduled. A workday for the purpose of recording time into the SAM II system will be the calendar day when half or more of the time scheduled within a regular daily shift first occurs.

Employees who are scheduled to work their regular hours on a night shift (when their regular shift schedule overlaps midnight) will have the first workday of each week identified as the calendar day they are first scheduled to work half or more of the hours in their scheduled shift. The first workday of a week will be used to define the workweek for these employees in the SAM II system.

3. The normal workday for most employees is an eight and one-half hour period beginning at 7:30 a.m. with 30 minutes set aside for a meal period, which is not compensable. Special conditions or the nature of the work may require some other schedule. With their supervisor's approval, employees may arrange for a meal period longer than 30 minutes. Although a supervisor may approve an occasional exception, employees will not be allowed to work through lunch to leave early.

With their supervisor's approval, employees may also arrange different work schedules, such as changing from five 8-hour days to four 10-hour days. Other optional schedules that might be approved are working four 9-hour days plus one 4-hour day per week, or working four 9-hour days plus one 8-hour day during one week, then working four 9-hour days with a full day off during the next week. Work may be either at MoDOT or from a remote location such as the employee's residence. (See Personnel Policy 0513, "Telework.") Supervisors will need to consider the impact to business operations within their units and to the department before deciding whether or not to approve requests for different work schedules. It is not necessary for the requested schedules to be of benefit to the department, but supervisors should not approve a request if the schedule will be a detriment to the operations of their units or the department.

4. If the flex week (FLEX) procedures within the SAM II HR/Payroll System are needed to accommodate revised schedules, employees will be required to record their hours as stated in the Financial Policies & Procedures Manual. The Financial Payroll Policy article titled "Flex Time" describes the conditions in which FLEX coding can be used. The primary requirement for the use of FLEX coding is to ensure FLEX and ADDHR are coded within the same week (Sunday to Saturday).

5. Flextime schedules (to begin work before or after 7:30 a.m.) may be arranged by employees with their supervisor's approval. These schedules will be on a continuing basis; however, supervisors may allow an occasional weekly or daily change.

6. Supervisors will be responsible for ensuring an accurate record of time worked by each employee during a pay period, as well as ensuring any flexed hours and paid leave used is recorded. The SAM II/HR Payroll System will be the source of documentation for this information.

7. District offices and the Central Office divisions/offices will be open for business from 7:30 a.m. to 4:00 p.m., Monday through Friday. Maintenance buildings, construction project offices, and other satellite offices may open

later or close earlier than normal business hours, provided customer service needs and emergency situations can be handled.

8. When travel in connection with work away from an employee's normal work location is required between an employee's assigned headquarters and the site of this work, or between the employee's temporary point of residence and the site of this work, it should be done during normal work hours, if possible. If it is not possible to travel during normal work hours, any travel time of at least 15 minutes outside normal working hours will be recognized as time worked.

9. Salaried and permanent part-time employees are authorized a minimum of two hours of work credit when called out to work before or after their normal work schedule, provided the call-out period is not immediately preceding or following the scheduled normal workday. Each 15 minutes worked in excess of the two hours unscheduled overtime is credited as additional time worked. Scheduled overtime, unlike the above, does not provide a minimum allowance of two hours but is credited for each actual 15 minutes authorized to be worked. Also, making phone calls as part of an emergency-call procedure or answering questions while at home does not qualify for the minimum allowance of two hours call-out work credit, but is credited for each actual 15 minutes worked.

Work time for call-out, in most situations, starts when employees arrive at their assigned work location (i.e.: maintenance building, construction project office, district or division office) to begin the work they were called to perform or to obtain the equipment needed to perform work at another location. Their work time ends when they complete the assigned work and leave their work area (or after returning the equipment). For employees who are designated as emergency responders ("Incidence Response" and similar needs) and are provided with a department vehicle that is taken home for the evening, their work time begins when they leave their homes and ends when they return to their homes after completing their assignments.

OVERTIME AND EMERGENCY OPERATIONS

10. The FLSA provides that all department employees in positions determined to be non-exempt are eligible for time-and-a-half overtime earnings for all hours physically worked over 40 in a workweek. Employees in positions determined to be exempt are not subject to overtime earnings unless designated by the department. The department will provide straight overtime earnings to exempt employees with the following exceptions: management positions and employees in salary grades 18 through 21 (including unclassified jobs). Overtime compensation categories for classified positions can be found on the Sub-Title (STTL) screen in the SAM II HR/Payroll System.

11. Employees will be required to work in excess of their normal work schedule, or on a holiday, whenever it becomes necessary to carry out the work of the department. Exempt employees (excluding the exceptions described in paragraph 10) will receive straight overtime earnings for each authorized 15 minutes on payroll (work or paid leave) in excess of 40 hours in a workweek. Non-exempt salaried employees will receive straight overtime earnings for each authorized 15 minutes in excess of 40 hours on payroll in a workweek until they have physically worked over 40 hours in the workweek. For wage and non-exempt salaried employees, each 15 minutes worked in excess of 40 hours physically worked in a workweek is recognized as time-and-a-half overtime.

12. The occurrence of overtime is for productive work only and is to be incurred only when necessary. In some situations, the work may dictate certain employees alter their work schedules and report to work at a time other than their regular starting time.

A. At the discretion of the immediate supervisor, employees may be relieved from duty once they have completed their normal number of hours for the day if the workload, contractor schedule, weather, etc., indicates the employee is not needed for the remainder of the day.

B. At the discretion of a district or division/office management team member, employees may be relieved from duty for the remainder of the workweek once they have completed a 40-hour week on payroll (i.e. hours worked and on paid leave).

C. At the discretion of a district or division/office management team member, employees may be relieved from duty prior to having completed a 40-hour week on payroll (i.e. hours worked and on paid leave) in order to flex hours that will be worked later in the week, as long as the employee will be on payroll for a minimum of 40 hours for the workweek. To ensure sufficient staff is available to perform necessary work for the duration of the normal scheduled workweek, employees may be asked to flex out additional hours worked on a staggered daily basis.

Additional guidance regarding these and other provisions of this policy are found within the department's Overtime Administration Guide. The guidelines found within the Overtime Administration Guide are not all inclusive of the department's policies and practices regarding overtime and are subject to change, without notice, based upon the department's business needs.

13. Emergency maintenance operations may require employees to work one of two 12-hour shifts. For safety reasons, employees operating these shifts are expected to take a 30-minute meal period, which is not compensable; however, when conditions do not allow this break, employees may be allowed to work a 12-hour shift without a meal break. In most instances, the normal work shifts during emergency operations (snow and ice removal, flooding, etc.) are 7:30 a.m. to 7:30 p.m. (day shift) and 7:30 p.m. to 7:30 a.m. (night shift). Supervisors will be responsible for assigning overtime. Employees not assigned for overtime will complete their standard day (8 hours, 10 hours, etc.) as directed by their supervisors. Employees are not permitted to work beyond their standard day unless directed by their supervisors. For safety reasons, supervisors will limit employees to working no more than 12 consecutive hours per shift. In the event an employee is needed to work more than 12 consecutive hours, approval from a maintenance management position in salary grade 18 or above is required.

On the first day of the emergency condition, night shift employees may be sent home prior to the completion of their standard day, if the emergency condition is forecasted to continue into the night shift hours. These employees will be expected to return that evening to begin their shift at a time that allows them to complete their standard number of hours for that day. If conditions change and these employees are not needed for emergency operations, they will be assigned to other productive activities to complete their standard number of hours.

14. The necessity for overtime work shall be determined by an employee's immediate supervisor or higher authority. Supervisors should not permit employees who are compensated for overtime to work overtime unless authorized, and are not to authorize overtime of less than 15-minute increments. Supervisors will determine the assignment of overtime work to employees on a fair and impartial basis, with advance notice, when circumstances permit. Failure on the part of any employee to work assigned overtime without an adequate reason will subject the employee to disciplinary action.

15. The department supports the military and will try to avoid conflicts of scheduling overtime work on weekends when employees who are members of the National Guard or reserve component are scheduled for weekend drills. Employees are required to inform their supervisors if a weekend drill may occur when weekend overtime is expected by the department. If a supervisor believes an employee's presence is critical to the department, the supervisor may write a request to the employee's guard or reserve commander requesting the

employee be excused from the weekend drill. If the employee is not excused, the employee must be allowed to attend the weekend drill.

COMPENSATORY TIME

16. The department reserves the right to pay cash or provide compensatory (comp) time for part or all of any overtime earned or accumulated. Full-time salaried employees may accumulate comp time not to exceed a maximum accumulation of 240 hours for overtime worked. Non-exempt salaried employees will have a choice to receive either comp time or cash for overtime worked, with one exception. Cash will be provided when non-exempt salaried employees work additional overtime while having a balance of 240 hours of comp time.

Exempt salaried employees who are eligible for overtime earnings (in salary grades 17 and under) and have the maximum accumulation of 240 hours comp time, will not receive any compensation for additional overtime worked, with one exception. Exempt salaried employees in salary grades 16 and under will have the choice to receive either cash or comp time for their straight time overtime earnings. Because of this choice, if one of these employees has a comp time balance of 240 hours, he/she can choose to be paid cash for additional overtime work while having a balance of 240 hours. When employees in non-exempt jobs move into exempt jobs in salary grades 16 and under, they will need to complete a new Employee Overtime Choice Request Form if they want to receive cash for overtime while in the exempt job.

Exempt salaried employees in salary grade 17 will receive comp time only (no cash) for their overtime earnings, up to the maximum balance of 240 hours.

Wage employees will receive cash for their overtime earnings.

17. When an employee is promoted into a salary grade 17 position, making him/her no longer eligible for the cash option for his/her overtime earnings, the employee will be given an opportunity to sell back any comp time over 120 hours. This will give the employee a better opportunity to "manage" his/her comp time while in this salary grade 17 position.

Since employees in jobs in salary grades 18 and higher are not eligible to receive overtime earnings, they will not need assistance to "manage" their comp time so the option to sell comp time is not available when an employee moves into one of these jobs.

18. Comp time shall be treated the same as annual leave. Comp time off may not be taken until earned and must be taken in increments of 15 minutes. Comp time off may not be taken unless approved by an employee's supervisor in advance. An employee shall be permitted to take comp time off within a reasonable period after making a request, if such time off does not unduly disrupt the operations of the work unit.

Once accumulated, comp time may not later be converted to paid overtime by an employee. An employee separating from the department for any cause will be paid for any comp time balance remaining after the last day worked. Employees who are retiring may elect to use comp time prior to their effective date of retirement.

HOLIDAY WORK

19. Salaried, permanent part-time, co-op, and wage (seasonal, summer, temporary part-time/retirees, and emergency) employees who earn straight time overtime (DOT 2 employees) or time-and-a half for overtime work (DOT 1 and DOT H employees) are eligible for the holiday differential for all work which they are required to perform on a holiday (official and observed). This differential will not be available for employees who, by their own choice and with supervisory approval, request to work on a holiday (e.g. to get "caught up") or

when switching days off within their normal workweek schedule as described in paragraph 20. See the Holiday Differential link under the COMPENSATION section of the Human Resources (HR) Division's website for the current hourly differential rate. The event type code to be used on the timesheet to record time worked on a holiday that is outside an employee's normal work schedule is ADDHR. Time worked on a holiday that is coded to ADDHR will be counted toward work time for the purpose of earning time-and-a-half overtime for physically working over 40 hours in a workweek. The event code to be used on the timesheet to receive the holiday differential for time worked on a holiday is HDIFF.

When the HDIFF event code is used by employees who work day-shift schedules, the amount of time coded to HDIFF for the holiday must equal the amount of time coded to ADDHR as this work on the holiday is outside their normal work schedule. When the HDIFF event code is used by employees who work night-shift schedules (shift time overlaps midnight), the amount of time coded to HDIFF will not necessarily be the same as the time coded to ADDHR, as employees on night shifts could perform work on a holiday that is within their normal work schedule. The regular time worked within their normal schedule while working on a holiday will be recorded on the corresponding date as designated by their work shift schedule in SAM II. The time that is eligible for the holiday differential is to be recorded on the actual day of the holiday by using the HDIFF event code. When employees on night shifts perform work on a holiday that is outside their regular night shift schedules, they will code this time worked to ADDHR and will be eligible for the holiday differential for this time.

20. The dates of the official and observed holidays can be seen in the ADMINISTRATION section of the HR web site. For holidays that occur on a weekend, the holiday differential will be provided when work is performed on the official holiday (Saturday or Sunday). Work performed on the day the holiday is observed by the department (offices closed on Friday or Monday), will also qualify for the holiday differential.

For holidays that occur on a weekday (Monday through Friday), the observed holiday and the official holiday will be the same day for all employees. Employees who normally work a schedule other than Monday through Friday, such as four 10-hour days, may take off for the observed holidays on different days (replacement holidays) than the department will be closed to observe these holidays. Employees who switch days off work (either employee choice or management choice) during their normal workweek schedule (i.e.: Monday through Thursday), to observe a holiday on a day other than the department's observed holiday or the employee's replacement holiday, will not be eligible to receive the holiday differential for time they work on the department's observed holiday. When switching days off within their normal workweek, the time they work on the holiday is to be coded to the event code REGLR, and they will not be eligible to code any time to the event code HDIFF.

NIGHT WORK

21. A night shift differential will be provided to eligible employees under the three provisions listed below:

A. Whenever they are scheduled to work for a full workweek at a time and a majority of the hours they are scheduled to work during that workweek are between 7:30 p.m. and 7:30 a.m. The differential will be applied to all time worked, including time that does not fall between 7:30 p.m. and 7:30 a.m. provided the majority of the hours scheduled are between these times. The night shift differential will also be applied to time on paid leave (annual leave, funeral leave, holidays, etc.) taken during the night shift workweek whenever eligible employees are scheduled to be on a night shift for a full week at a time.

B. Whenever they are scheduled to work nights for less than a full workweek (daily basis or longer), the night shift differential will be applied to the time physically worked between 7:30 p.m. and 7:30 a.m. that is not part of an employee's regular day shift hours, provided the employee is required by his/her supervisor to work during this time. The night shift differential will not apply to a situation where the supervisor requests work that requires overtime but the employee, for his/her convenience or personal

reasons, provides such overtime work between 7:30 p.m. and 7:30 a.m. When an employee works a night shift during emergencies (such as snow storm), all time worked between 7:30 p.m. and 7:30 a.m. will be eligible for the night shift differential, regardless of the employee's regular day shift hours. Also, time worked on a day that is outside an employee's regular daily schedule (such as weekends or holidays) that occurs between 7:30 p.m. and 7:30 a.m. will be eligible for the night shift differential, regardless of the employee's regular day shift hours.

C. Whenever they are called out to work outside their regular shift hours on a regularly scheduled workday as described in paragraph 9 above and this time occurs between 7:30 p.m. and 7:30 a.m. Also, time credited for call-out on a day that is outside an employee's regular daily schedule (such as weekends or holidays) that occurs between 7:30 p.m. and 7:30 a.m. will be eligible for the night shift differential, regardless of the employee's regular day shift hours.

To receive the night shift differential, the event code of RDIFF is to be entered on the timesheet for all time on payroll that is eligible for the night shift differential as described above, in addition to the regular coding requirements for the work performed. Salaried, permanent part-time, co-op, and wage (seasonal, summer, temporary part-time/retirees, and emergency) employees who earn straight time overtime (DOT 2 employees) or time-and-a half for overtime work (DOT 1 and DOT H employees) are eligible for the night shift differential. See the Night Shift Differential link under the COMPENSATION section of the HR website for the current hourly differential rate.

Employees who are not eligible for the night shift differential include exempt employees who do not receive overtime earnings (DOT 3 employees) and employees who work at home. Work-at-home situations are considered daytime schedules, and these employees will not be eligible for the night shift differential for their normal daily work. However, if their supervisors specifically require them to perform work between 7:30 p.m. and 7:30 a.m., they would be eligible for the night shift differential for the time worked at night.

22. Employees who are required to attend department-sponsored training programs or travel to or from such training programs outside of normal working hours will be compensated based on their eligibility for overtime as stated in this policy.

Training programs, including travel time, should be scheduled within normal working hours if possible. If not possible, any training or travel time of at least 15 minutes outside of normal working hours is recognized as time worked. When an employee, by personal preference, requests and is authorized to travel to or from a training program outside of the normal work hours, this travel time will not be compensated if the department would have provided lodging for the employee at the location of the training.

CROSS REFERENCES

Personnel Policy 0513, "Telework"

Financial Payroll Policy, "Flex Time" article (http://financialpp.gh.modot.local/index.php/Flex_Time#Flex_Time)

Overtime Administrative Guide (3000) (http://hr.modot.mo.gov/images/c/c3/Overtime_Administration_Guide.pdf)

FORM

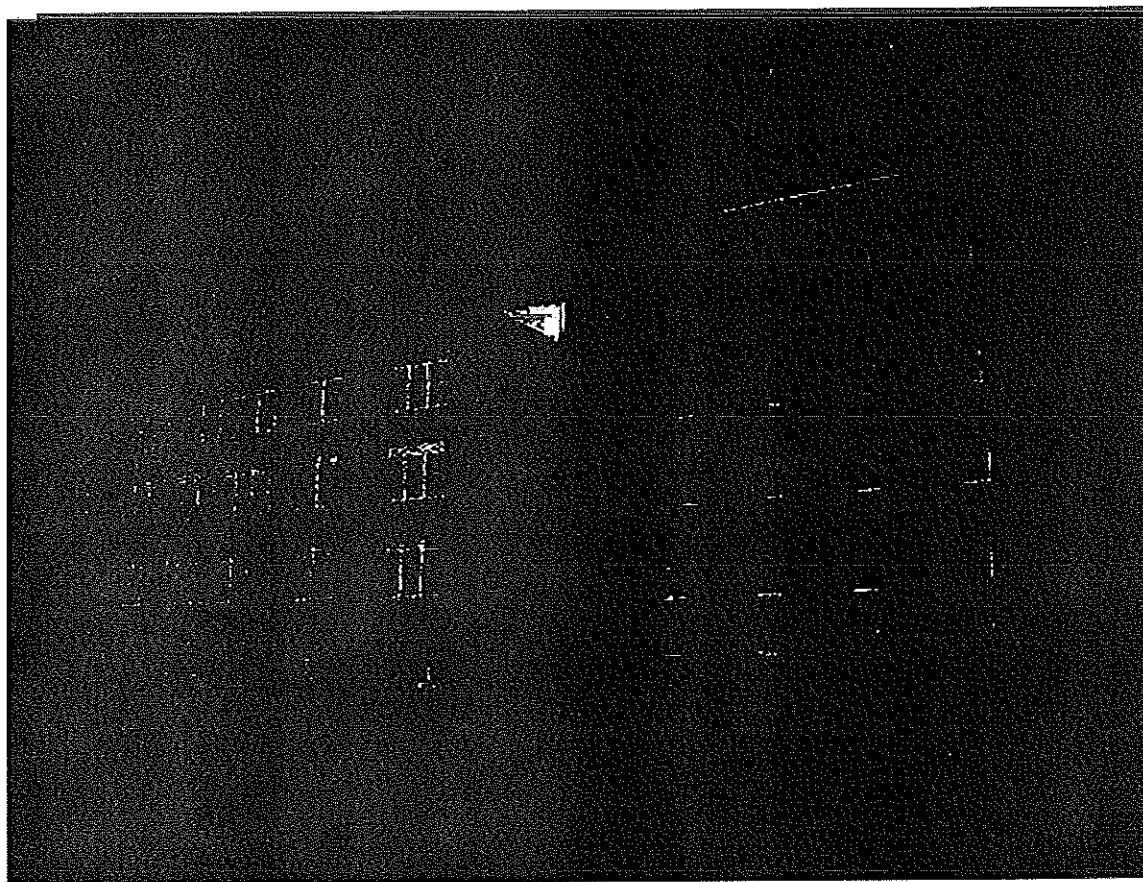
Employee Overtime Choice Request Form

(<http://wwwi.dot.missouri/intranet/hr/documents/EmployeeOvertimeChoiceRequestForm.pdf>)

Retrieved from "http://hr.modot.mo.gov/index.php/Policy_3000"

- This page was last modified on 8 September 2014, at 15:42.

Workplace Security Plan



October 4, 2011

Missouri Department of Transportation

Workplace Security Plan

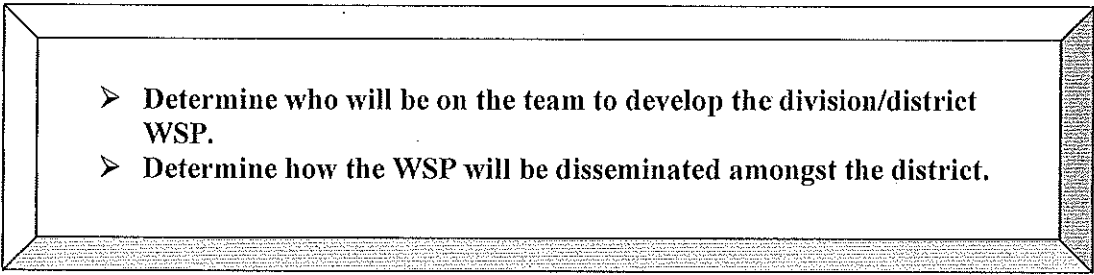
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PREFACE

Purpose

The purpose of this Workplace Security Plan (WSP) is to clearly outline the responsibilities of employees involved in or witnessing a violent act or violent situation at the workplace and to recognize the line of authority in reporting and responding to such incidents. This plan applies to all Missouri Department of Transportation (MoDOT) employees. It is the intent of MoDOT, through its established policies and department training, to minimize the impact of any critical incident in the workplace. In the event of a critical incident at the workplace, by following the procedures outlined in the Incident Response Plan (IRP), MoDOT will make every attempt to provide for the security, safety, and psychological well being of employees, their families, and visitors.

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- **Determine who will be on the team to develop the division/district WSP.**
 - **Determine how the WSP will be disseminated amongst the district.**

Definitions

All Clear: A signal that the threat is over.

Areas:

- **Non-Working or Public Areas:** Areas that are open and accessible to the general public during normal business hours. This includes parking areas, lobbies, reception and waiting areas. These areas should be under surveillance by MoDOT personnel either directly or by security cameras when available.
- **Controlled Areas:** Areas that contain personnel and moderately valuable equipment and/or information. Public access may be permitted while in the presence of an employee. Moderate operational or financial loss could be expected. Examples of controlled areas include employee work areas, building maintenance areas, etc. Controlled areas should have limited security.
- **Restricted Areas:** Areas that contain valuable equipment or information. Incidents in a restricted area could cause serious operational and financial loss. Examples of restricted areas could include data centers, communication closets, server rooms, traffic operation centers, and stockroom or tool storage areas. Restricted areas should have high security.

Armed Threat: Communication or physical actions directed toward another person intended or reasonably expected to threaten, intimidate, or harm involving a gun, knife, or other device that may cause physical injury or death.

Domestic Violence: Abusive and/or harassing behavior that is physical, sexual, and/or psychological, and is intended to establish and maintain control over a family or household member.

Exterior Lockdown: Securing all exterior entrances of a building to prevent a threat from entering. This action does not prevent individuals from leaving the building.

External Threats: Threats from outside organizations or individuals that may include terrorists groups, special interest groups, general public, and criminal acts.

Secure In Place: Securing offices and work areas or seeking cover or concealment when a threat is known or believed to be inside a building. This action does not prevent individuals from leaving the building.

Key Card: A card that is utilized with security systems that allows the authorized cardholder to enter through locked doors equipped with magnetic locking systems.

Safe Area: A place which provides cover or concealment from a threat.

Security Coordinator: An employee assigned to oversee the security within a district or Central Office.

Security Systems: Technological devices that include, but are not limited to, cameras, alarm systems, proximity readers, and hard locks.

Threat): Any word(s) or action(s) involving the inference, no matter how subtle, to harm individuals or property. This includes threats received by telephone, email, or in person.

Threat Assessment Team: This is a group of employees responsible for investigating and responding to incidents occurring within their respective locations. The team works in conjunction with the appropriate department officials, as well as local law enforcement and emergency agencies when necessary, to coordinate a response to incidents as they occur. Members of the district Threat Assessment Teams (TAT) will be appointed by the respective district engineer, while the Central Office TAT will be appointed by the Director of the Department of Transportation, or a designated representative.

Violence: Any behavior through communication or physical action that is intended, perceived, or is reasonably expected to threaten, intimidate, or harm another person.

- Threats of violence expressed as verbal comments, directly or indirectly expressed in a veiled or conditional manner, to another person(s).
- Threats of violence that may be communicated through any written or pictorial documentation, including computer memorandums.
- Physical actions such as hitting, pushing, kicking, holding, impeding, physical gestures, forcibly blocking the movement of another person(s), or damage to property.

Visitor: Any individual who is not an active employee of MoDOT.

PHOTO ID BADGES, KEY CARDS and HARD KEYS

Photo ID badges, key cards and hard keys are utilized by MoDOT statewide. MoDOT uses a photo ID system to identify MoDOT employees, specific contractors, and vendors. Individual district photo identification badges will be honored at all MoDOT locations until such time as MoDOT is using the Office of Administration (OA) photo ID badges.

Photo ID badges, key cards and hard keys are the property MoDOT. All MoDOT employees will be assigned an individual photo ID badge. Employees are responsible for maintaining control of their assigned photo ID badge and displaying the photo ID badge at all MoDOT buildings where it is safe and practical to do so. Photo ID badges will be worn on their person and displayed in plain sight. To prevent entanglement or possible injury, all display lanyards should be of the breakaway style.

Central office and each district should develop a procedure for issuing and replacing photo ID badges.

Key Cards and Hard Keys

Key card reading systems provide access to controlled and restricted areas and enhance security. Key card systems provide tracking capability to identify individuals who have entered a specific area. Central Office and the district offices are responsible for issuance and control of key cards for their areas of responsibility. This includes establishing different levels of access to the facilities.

Employees will be accountable for their assigned key cards and hard keys just as they would a hard key to the building. Key cards that are lost or stolen shall be reported to the appropriate authority immediately or as soon as practical to do so. Lost or stolen key cards will be deactivated immediately.

Return of Photo ID Badges/Key Card/Hard Keys

Employees will surrender their assigned photo ID badge, key card and hard keys upon request from appropriate MoDOT authority. Employees terminating employment with MoDOT shall surrender their photo ID badge, key cards, and hard keys prior to receiving their last paycheck. A \$25.00 charge will be assessed to any employee failing to return their photo ID badge, key cards or hard keys.

Lost, Stolen, or Damaged Photo ID Badges/ Key Cards/Hard Keys

All lost, stolen, or damaged photo ID badges, key cards and hard keys must be reported by the employee to their supervisor immediately. A new photo ID card will be issued at no charge to the affected employee.

Key cards that are lost or stolen will be replaced at no cost to the employee. However, Central Office and district offices may impose a service charge, if negligence on the part of the employee caused or contributed to the item being lost, stolen or damaged.

Central office and each district should have a written procedure for issuing and replacing photo ID badges, key cards and hard keys.

Visitor Sign In/Out

In all MoDOT buildings equipped with a reception/customer service desk, visitors will be announced and should be escorted from contact to contact until they leave the building. In addition, visitors will sign in and out of the building. Approved visitors will be issued a visitor's badge. Visitors are required to display their visitor's badge while on MoDOT property.

Visitor logs will include, but are not be limited to, the following information; the visitor's first and last name, company/service represented, MoDOT employee being visited or destination, and the date and time the visitor entered and exited the facility. A sample visitor log is shown in Attachment A. Completed visitor logs will be maintained for a minimum of 1 year.

MoDOT employees visiting from another district or Central Office displaying their individual photo ID badge will not have to sign in/out as a visitor.

Long Term Contractor/Consultant Photo ID Badges

All long-term contractors/consultants are required to obtain an Office of Administration photo ID badge which specifically identified the individual as a "contractor." These badges are provided with an expiration date and must be renewed if the person remains on the premises after the expiration date.

Contractor and Vendor ID Badges

Contractors authorized to conduct business with MODOT will wear Office of Administration photo ID badges while in MoDOT facilities whenever it is safe and practical to do so. This practice will assist to identify authorized individuals within MoDOT buildings.

After Hours Access and Periodic Review

The districts and Central Office are responsible for establishing their own after-hours access for each employee. The level of access depends on the employee's job duties. Supervisors will perform a semi-annual review of employee access to determine if less or more is required for MoDOT business.

Employees who bring visitors or guests into the building after hours will be held personally responsible and accountable for their visitors' actions. Visitors will not be permitted to be unescorted while in the building.

BUILDING SECURITY

Statewide Project Leader and District Security Coordinators

A Statewide Project Leader should be designated within Risk and Benefits Management CO. The Statewide Project Leader should be responsible for ensuring statewide consistency and coordination of safety and security as well as developing and implementing statewide security strategies for all MoDOT facilities.

Each district should be responsible for designating one person as the District Security Coordinator. Each designated District Security Coordinator should have primary responsibility for overseeing the security of the district facilities, including but not limited to;

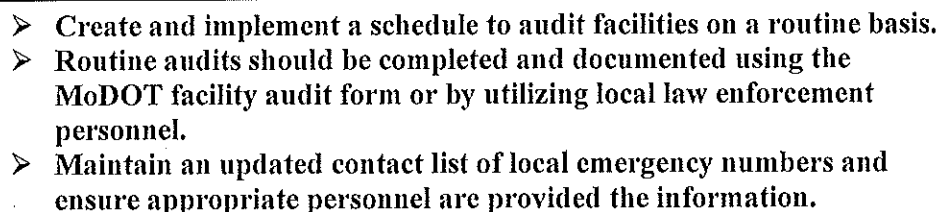
- Active participant of the Threat Assessment Team (TAT); and
- Primary liaison in security matters with local law enforcement.

Each employee is responsible for cooperating with security efforts within any MoDOT facility. This cooperation will include:

- Adherence to all policies and procedures related to security and securing MoDOT assets to which they have been assigned;
- Reporting suspicious activity/threats involving MoDOT property and/or employees;
- Securing all assigned security codes, key cards, and hard keys; and
- Immediately reporting their loss, damage, or theft.

Security Audits

Security Audits are an essential part of keeping our workplace safe and protecting our valuable assets. Audits shall be completed to expose potential security risks and take appropriate measures to mitigate them. Audits should include one person from the threat assessment team and be will conducted on a annual basis, at a minimum. Information shall be shared with the Statewide Project Leader to prioritize security threats and facilitate solutions.

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- Create and implement a schedule to audit facilities on a routine basis.
 - Routine audits should be completed and documented using the MoDOT facility audit form or by utilizing local law enforcement personnel.
 - Maintain an updated contact list of local emergency numbers and ensure appropriate personnel are provided the information.

Security Alarm Systems

To protect MoDOT employees, visitors, and resources, security systems may utilize intrusion alarm systems, keys, and security cameras.

- Divisions and districts need to assess and implement security devices and measures appropriate to each facility.

Intrusion (Burglary) Alarm Systems

In all MoDOT buildings where intrusion alarm systems are utilized, employees with authorization may be provided a code for arming and disarming the alarm system. A unique security code should be provided to each employee. In the event an employee inadvertently sets off the alarm system, they are required to immediately contact the alarm company to advise them of the situation. Employees will cooperate with responding law enforcement officers, security company representatives, and/or designated MoDOT employee(s). Assigned codes for intrusion systems will be changed at the time an employee terminates employment with the department.

Security Cameras

MoDOT may utilize security cameras as necessary and practical to enhance security strategies. Portable security cameras may be utilized where permanently installed systems are not feasible. The installation of "dummy" cameras should not be utilized. All cameras should be maintained and function properly. Cameras will not be placed in locations where there is a reasonable expectation of privacy.

Audits and Investigations will coordinate the use of concealed cameras as outlined in Personnel Policy 2500, http://hr.modot.mo.gov/index.php/Policy_2500.

MoDOT employees are prohibited from attempting to obstruct, cover, turn, or otherwise interfere with a MoDOT security camera.

Recording devices will not be used without the prior authorization by the Director of Audits and Investigations. Please refer to Personnel Policy 2500 for further guidance:
http://hr.modot.mo.gov/index.php/Policy_2500.

- Develop and implement camera operation and maintenance procedures.

Firearms in the Workplace

MoDOT Personnel Policy 2512, "Workplace Violence," states, "The department prohibits any person from carrying a firearm or weapon of any kind that is readily capable of lethal use into a department owned or occupied building as provided in Section 571.030.1(8) of the Revised Statutes of Missouri, whether or not the person has a permit to carry a concealed firearm. The department will post signs prohibiting such firearms or weapons in MoDOT owned or occupied buildings. The department further prohibits firearms or any weapon readily capable of lethal use in any department equipment or vehicles, whether or not the person has a permit to carry a concealed weapon. This personnel policy does not apply to any on-duty federal, state, county, or municipal law enforcement officer(s) possessing the duty and power of arrest for violation of the general criminal laws of the state or nation. Further, this policy is not intended to prohibit storage of a concealed or unconcealed firearm or other weapon capable of lethal use in a personal vehicle while parked on department property, as long as the firearm or weapon capable of lethal use remains in the vehicle at all times and is not brandished on department property." Further information regarding this policy can be found at: http://hr.modot.mo.gov/index.php/Policy_2512.

Exterior Lock Down / Secure in Place

In order to secure a facility(s) from a threat, whether on the outside of a facility or one that has entered the facility, staff must be aware of the steps to take.

The level of the lockdown will be dependent upon the nature of the threat, the location of the threat, and the immediacy of the threat. The reasons lockdowns may be necessary include, but are not limited to, a civil disturbance, riot, and the presence of an armed suspect in the area. All MoDOT facilities must be equipped with the capability to quickly lock any exterior doors that provide access from the exterior of the building to the interior of the building. However, these doors must be capable of permitting individuals to exit the building.

A lockdown, whether an exterior lock down or secure in place will remain in effect until local authorities or a senior management team member or designee provides the "ALL CLEAR."

Exterior lockdown is used when a serious threat is present outside the facility or in the vicinity of the building and preventative measures should be enacted to:

- Prevent individual(s) from leaving the facility and entering into an area of danger; and
- Prevent the threat from entering the facility.

A senior management team member or designee is responsible for announcing an "exterior lockdown" over the facility's public address system or by other means of communication.

When an exterior lockdown is implemented, the following precautions may include, but are not limited to:

- Lock exterior entrance doors;
- Close all window coverings;
- Turn off room lights;
- Keep all persons away from windows and door ways; and
- Prepare employees to move to a safe area to secure in place, if required.

A secure in place lockdown is implemented when a threat exists inside the building. During a secure in place, employees shall secure themselves away from the threat. When a physical threat exists inside the building, action should be taken to deter the threat from accessing targeted or potentially targeted areas.

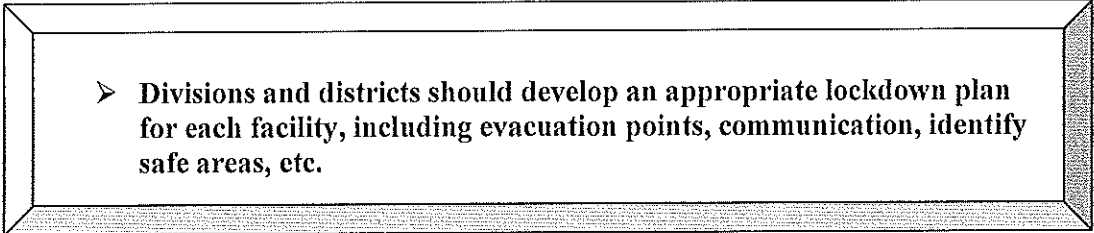
A senior management team member or designee is responsible for announcing an interior lockdown over the facility's public address system or by other means of communication.

Individuals outside the facility, with the exception of emergency personnel, should not enter the facility but instead, should head away from the building and meet at a pre-arranged location.

If it is not safe to leave the building, individuals inside the facility should consider taking the following actions:

- Immediately head to the closest safe area;
- Secure the door to the safe area, if possible;
- Remain in the safe area;
- Turn off room lights;
- Close all window coverings;
- Conceal yourself;
- Remain as quiet as possible; and
- Silence cell phones, pagers, radios, etc.

Buildings with limited exterior entry/exit points or capacity for interior safe areas, such as maintenance sheds, must be capable of locking down all exterior entrances, including bay doors, against unauthorized entry so that the building may be made secure against the threat entering the building.

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- Divisions and districts should develop an appropriate lockdown plan for each facility, including evacuation points, communication, identify safe areas, etc.

Public Meetings and Hearings

Divisions within MoDOT and the Missouri Highways and Transportation Commission hold public meetings both in Jefferson City and around the State of Missouri. When necessary, during these meetings, MoDOT will utilize a uniformed law enforcement officer to deter potentially violent or disruptive actions and provide an immediate response in the event of such action. The uniformed officer will have peace officer powers of arrest for the jurisdiction where the meeting/hearing is held. The officer may be a member of a state, county, or municipal law enforcement agency. When no law enforcement officer is available, MoDOT may utilize the services of security personnel, but only after all attempts to obtain a uniformed law enforcement officer have been exhausted. As necessary, MoDOT may pay for the services of the officer.

SECURING PROPERTY AND FACILITIES

Landscaping and Shrubbery

Careful consideration should be given to the advantages foliage offers an intruder with respect to concealment. Basic guidelines governing landscaping are as follows:

- Maintain clear visibility of all entrance and exit points.
- Shrubs should be 18 to 24 inches away from entry points and should be no higher than 18 inches when located within 10 feet of building entrances.
- When located below windows, hedges should be cut at least six inches below window level.
- Tall shrubs or trees can be trimmed from bottom up to assure open visibility.
- Hedges should be separated to prevent hiding.

Lighting

Buildings and parking lots should be sufficiently lighted. Proper lighting serves as one of the most effective perimeter barriers available. Lighting utilized in conjunction with other perimeter barriers creates both physical and psychological deterrents. Listed below are general lighting sources that are used to provide indoor or outdoor lighting.

The following should be considered prior to recommending a lighting system:

- Location of the lights and direction of beams;
- Lighting at all exterior doors, stairwells, corridors, and other entry points into the buildings;
- Natural or structural obstructions interfering with adequate lighting;
- The size of the area to be secured;
- The amount of light required to adequately protect the area/building; and
- The type of other protective systems being utilized or considered and type of facility being protected i.e., warehouse, commercial facility, etc.

Securing Unoccupied Facilities

Unsecured windows, doors, and gates provide an opportunity for the entry of an intruder. Windows, doors, and gates shall be secured, where applicable. Roofs and skylights should be secured.

Sewers, Storm Drains, Manhole Covers, and Steam Tunnels

Openings such as sewers, storm drains, manhole covers, and steam tunnels that surround a facility should be secured if they lead directly or indirectly into a facility. They may be secured through the use of chains, padlocks, bars, or gratings.

Theft and Vandalism

MoDOT property is expected to be secured in a manner which deters theft. Equipment including, but not limited to, laptops, cell phones, tools and other department equipment will not be left in vehicles overnight while parked outside or in parking garages of hotels, meeting areas, airports and residences. In addition, MoDOT vehicles will be locked unless parked within a secured MoDOT facility.

If theft occurs, employees are required to:

- Complete and appropriately code an E-11 Claim Report and report the theft of any MoDOT property to local law enforcement;
- Obtain the report number from the reporting officer; and
- Notify the Risk and Benefits Division and Audits and Investigations.

In the event there is vandalism to MoDOT property including, but not limited to, facilities, vehicles, equipment, bridges and right-of-way:

- Contact local law enforcement with the primary jurisdiction where the vandalism occurred.
- Complete and appropriately code an E-11 Claim Report and contact MoDOT Risk and Benefits Division personnel as soon as possible.
- Do not disturb or repair the vandalized property until after law enforcement and MoDOT personnel complete their assessment.
- Photograph and document the vandalism.
- Repair the vandalized property as soon as practical.

Link for forms on the RB webpage - <http://wwwwi/intranet/ri/forms.htm>

THREATS

MoDOT is committed to the safety of its employees. A threat of violence includes any communication or physical action reasonably expected or intended to threaten, intimidate, or harm another person. Further information can be found in Personnel Policy 2512, "Workplace Violence" at: http://hr.modot.mo.gov/index.php/Policy_2512.

Unarmed Threat

In the event any employee feels threatened, the following guidelines should be used to protect their safety:

- Remove yourself from the area if you feel you are in danger;
- Notify individuals in your immediate area;
- Contact local law enforcement; and
- Notify senior management, TAT, and/or the Security Coordinator as quickly as possible to further assess any security issues.

Armed Threat

Employees are not expected to put themselves at risk and should remain as calm as possible.

In the event any armed person should enter a MoDOT facility, the following guidelines should be used to protect the safety of employees. The goal is personal safety and each employee is responsible for assessing the situation and using his/her best judgment to secure a safe location.

Employees must independently decide to evacuate or secure in place. It is recommended to evacuate the building as the first option, but only if it can be done safely. Employees should attempt to contact local law enforcement if it is safe to do so and then the Security Coordinator. As a last resort only, should employees attempt to incapacitate the threat.

Evacuate

- Leave personal belongings behind;
- Proceed to a pre-designated, off-site location unless directed otherwise by law enforcement; and
- Do not return to the building until instructed to do so.

Secure in Place

- Remain inside the building and secure yourself away from the armed threat;
- Secure doors, silence cell phones, and remain quiet; and
- Remain in your location until the "ALL CLEAR" is given.

Take Action

Take action when your life is in imminent danger

- Run away; or
- Attempt to incapacitate the armed threat; and
- Act with physical aggression and throw items at the armed person(s).

Telephone Threats

Telephone threats can be from a variety of different sources including a current or former employee, an employee's spouse or other family member, an applicant, constituent, or other member of the general public. In the event an employee should receive a threat over the phone, the following procedures will be used as a guideline to protect the safety of employees.

- Gather details regarding the caller's personal information and complaints; as soon as practical, employees should complete the Phone Threat Form at ... (add link)
- Immediately notify your supervisor and the District or Central Office Security Coordinator;
- Implement TAT if appropriate; and
- Contact local law enforcement if deemed appropriate.

Domestic Violence

MoDOT strives to provide a work environment in which employees are secure. Domestic violence can adversely affect the safety and security of employees. It is important all employees know how to respond to the possibility of domestic violence in the workplace. Further information can be found in Personnel Policy 2512, "Workplace Violence" at: http://hr.modot.mo.gov/index.php/Policy_2512.

The following clarifies the roles and responsibilities of staff:

Employees

- Any employee being stalked or otherwise threatened off the job is strongly urged to notify his or her immediate supervisor or the local HR office immediately.
- In cases where a restraining order has been issued by or against an employee, the employee is required to notify his or her immediate supervisor or the local HR office.
- Any employee who is aware of another employee having a restraining order issued by or against that employee is required to notify his or her immediate supervisor or the local HR office.
- Employees should keep supervisors and managers up to date regarding the status of the employee's restraining order and domestic situation. This information will allow for appropriate action to be taken to ensure the safety of the employee and others in the workplace.
- Employees are to provide a photograph of the perpetrator to their supervisor or manager and their local HR office.
- Employees are encouraged to utilize the Employee Assistance Program (EAP) for assistance at 1-800-808-2261. Additional information can be found on the intranet site.

Supervisors/Managers

- Be responsive when an employee reports being either the victim or perpetrator of domestic violence.
- Immediately contact the local HR office for assistance.
- Be aware of physical or behavioral changes in employees and consult with HR if there are any concerns.
- Maintain confidentiality. Information about the employee should only be given to others on a need-to-know basis.
- Maintain communication with the employee during the employee's absence.

- Supervisors and managers should work with the employee, local HR staff, the EAP, and local authorities, as appropriate, to assess the need for and development of a domestic violence security plan for the employee.
- The department should consider the following components to be included in a domestic violence security plan:
 - ✓ Obtain a copy of the current restraining order, keeping a copy available at all times, and provide copies to the local HR office, affected reception areas, local authorities, and other areas as deemed appropriate;
 - ✓ Determine if exterior lock-down procedures need to be implemented;
 - ✓ Confirm emergency contact person(s) in case the department is unable to contact the employee;
 - ✓ Review the employee's parking arrangements and/or work location for possible changes;
 - ✓ Consider modifying employee's work schedule;
 - ✓ Determine if the employee's telephone calls should be screened at work or if their telephone number should be changed; and
 - ✓ Consider allowing employees to take paid or unpaid leave.

Human Resources

- Inform TAT and work with management to address the needs of employees in the workplace.
- Inform employees of leave options and assist to facilitate the process.
- Make referrals or assist managers and supervisors with referrals to appropriate outside agencies such as law enforcement, community safe shelters, and the EAP.

High Risk Behavior

There are no guarantees that violence will not occur in the workplace. Employees and supervisors must do their part and report any inappropriate or unacceptable behavior that is disruptive, provoking, harassing, threatening, or unsafe. Early action and intervention can diffuse a potentially dangerous situation and prevent the occurrence of violence.

Violence tends to escalate along a specific pattern. What may start out as shouting may eventually lead to more extreme incidents of violence. Any violence is unacceptable and will not be tolerated. Depending on the situation, it may be necessary to enact the district or division's TAT as outlined in Personnel Policy 2512, "Workplace Violence."

The department's policies do not preclude employees from contacting law enforcement or emergency personnel at any time if they believe immediate action is warranted.

Supervisors and managers should work to recognize when employees need assistance. Behavioral changes may be observed that indicate a serious problem exists. Examples of such behaviors may include, but are not limited to:

- Decline in work performance;
- Difficulty in recalling instructions or details;
- Difficulty concentrating;
- Difficulty working with others
- Chronic exhaustion and/or drowsiness;

- Lack of interest or participation;
- Excessive personal time on the telephone or personal cell;
- Arriving late and/or leaving early;
- Excessive use of leave that may follow a pattern;
- Extended lunches and/or breaks;
- Frequent absences from assigned work areas;
- Peculiar and improbable excuses for absences;
- Repeated requests for time off by telephone without advance notice;
- Difficulty in interpersonal relationships with others;
- Accidents, both work-related and non-work-related;
- Deterioration in appearance; and
- Borrowing money from others.
- Use of direct or veiled threats;
- Intimidating, bullying, or other types of aggressive behavior;
- Harassment;
- Ongoing conflicts with supervisors and/or co-workers;
- Discussing weapons or bringing them into the workplace;
- Making comments to suggest ending his/her life;
- Having a romantic obsession with a co-worker who does not share that interest;
- Maintaining records of other employees who he/she believes to have violated departmental policy; {not related directly to their job duties and responsibilities}
- Domestic or family problems;
- Lack of empathy;
- Intense anger, explosive outbursts, or rage without provocation;
- Acting out, either verbally or physically;
- Making threatening or intimidating comments to others;
- History of drug or alcohol abuse; and
- Disgruntled employee or ex-employee who is excessively bitter.

Disciplinary Action

Depending upon the situation, there may be times where workplace security will come into play when administering disciplinary actions. MoDOT supervisors and managers should be aware if an employee has exhibited any at-risk behaviors as mentioned in the "High Risk Behavior" section. Supervisors and managers who may have concerns about workplace security should contact HR and the Security Coordinator.

When conducting a disciplinary action meeting, it is suggested that more than one member of the management team attend the disciplinary action meeting, with at least one person in attendance being of the same gender as the employee being disciplined. Prior to the meeting, the following questions should be considered:

- Should a mandatory EAP referral be a required part of the disciplinary action?
- Should the disciplinary action meeting be conducted in a meeting room with multiple exits rather than in an office?
- Should building access be denied while on suspension?
- Should local law enforcement be contacted?

- Are external lock-down procedures warranted?

Bomb Threat

A bomb threat is often received through an anonymous telephone message, stating that a bomb has been placed on the premise or structure. All bomb threats will be taken seriously. Every effort should be made to obtain detailed information from the caller, such as the following questions:

- When is the bomb going to explode?
- Where did you place it?
- What kind of bomb is it?
- What does the bomb look like?
- Why did you place the bomb in the building or on the structure?
- If possible, use the attached "Threat Report Form" to record information and identifying characteristics of the caller.

Employees who receive a bomb threat will complete a "Threat Report Form" and immediately notify law enforcement. Senior management should also be notified, along with the Security Coordinator, who will notify TAT.

Suspicious Letters and Packages

Employees should recognize suspicious packages and mail. The characteristics of a suspicious package or letter may include:

- No return address;
- Powdery substance;
- Excessive postage;
- Excessive tape or string;
- Sloppy or unprofessional packaging;
- Poorly written and misspelled words;
- Unusual weight for the shape and size of the package;
- Unusual sounds, odors or stains; and
- Mail from a foreign country.

The precautions that should be taken if a suspicious package or letter is received include:

- STOP! DO NOT OPEN OR HANDLE IT!
- Remove employees and visitors from the immediate area.
- Isolate and secure the area.
- Contact senior management and your supervisor by a *landline* telephone.
- Contact law enforcement by a *landline* telephone.
- All employees should turn off their cell phones and Blackberries.
- Wash your hands with soap and hot water.
- Do not clean up powder or other substances.

If you have been exposed to powder or unknown substance:

- Isolate yourself to protect others.
- Wait for directions from emergency personnel.

Management may want to consider taking the following actions:

- Isolate the area where the package is located with appropriate barriers, lock doors, and watch personnel.
- Turn off the HVAC to the entire facility.
- Establish a secure "command" area away from the suspected area or package with telephone communications. Establish staff to assist with the situation, as needed.
- Make sure emergency responders know how to contact you when you make the emergency call. Ask the emergency responders to check in and keep in communication with MoDOT personnel.
- Monitor individuals that may have been in contact with the package.
- Notify the security coordinator.
- Ensure the appropriate law enforcement agencies have been notified.
- Ensure Central Office personnel have been notified, when appropriate.
- Management should determine if evacuation is required.
- Management may need to modify the evacuation route.
- Management should assist emergency response personnel.
- Management will provide employees the "All CLEAR" after receiving notification from emergency responders.
- Management should consider contacting the media to communicate instructions and messages to employees and others.

TERMINATIONS AND SEPARATIONS

Termination is difficult for both the department and for the employee being terminated. The past behavior of an employee should always be considered during the course of termination. It is difficult to predict how an individual will behave during the course of a termination, but if signs point to the possibility of problem behavior, management must take preventative steps. Supervisors and managers should contact their local HR manager to assess the situation and use the following guidelines to minimize the possibility of workplace violence:

Before the Termination/Separation

- Supervisors and managers should work with their local HR manager to determine if the TAT should be implemented as outlined in Personnel Policy 2512, "Workplace Violence," http://hr.modot.mo.gov/index.php/Policy_2512.
- The local HR or management team member should contact the local police, sheriff, or Highway Patrol office to inform them of the impending termination of an employee. Ask the law enforcement official to be either on or near the property on the day and time of the termination.
- Determine if exterior lock-down procedures should be activated and for the appropriate duration.
- Central Office should be notified of any exterior lock-down situations.
- As appropriate, management team members should be notified of the upcoming termination.
- Immediately restrict building and network access for all employees being terminated and for those employees who resign or retire in lieu of termination.
- MoDOT supervisors and managers are required to recover all department equipment from the employee such as a lap top computers, cell phones (including sim cards), pagers, flash drives, identification cards, calling cards, business travel cards, parking permits, keys to the building, etc. If the items are not recovered, the appropriate parties shall be notified.
- Management should consider waiting until the end of the workday to terminate.
- MoDOT management should determine how the employee will remove or receive his or her personal belongings. Each situation is different and should be assessed to determine the appropriate method for a terminated employee to retrieve his or her personal belongings. The following offers a variety of options depending upon the situation:
 - ✓ During the termination, have two members of management pack the employee's personal items and belongings and either hand deliver the items to him or her after the termination or mail the items to the employee's home; or
 - ✓ Following the termination, two members of management should immediately assist the former employee in packing his or her personal belongings; or
 - ✓ Following the termination, two members of management should make arrangements to assist the former employee after hours in packing his or her personal belongings.

During the Termination/Separation

- Have at least two members of MoDOT management present at the termination. At least one of these individuals should be of the same gender as the person being terminated.

- Communicate to the employee they prohibited from returning to MoDOT facilities (district offices, central offices, maintenance buildings) without calling a supervisor in advance to make arrangements.

Following the Termination/Separation

- The employee should be escorted from the building and observed to ensure they leave the property without incident.
- Consider increasing security or having local law enforcement present for the next few days.
- Employees in the building and nearby area should be notified the person is no longer working for the department.
- If employees feel threatened at work or away from the workplace, they should contact local law enforcement for assistance and inform the appropriate department personnel to determine if any security measures should be implemented.

TRAINING

Workplace security training will be provided to all MoDOT employees commensurate with their job responsibilities and decision making authority. Annual training should be provided and could include on-line awareness training. The training should include, but not be limited to, lockdown/secure-in-place procedures, evacuation procedures, threat management, and reporting responsibilities.

SECURITY TIPS

Travel Security

Many MoDOT employees have duties that require them to travel and stay overnight. There are techniques employees can use to increase travel security:

- Provide your itinerary to family members and staff.
- Don't advertise that you will be out of town.
- Travel with others.
- Pick secure hotel rooms.
- Secure your hotel room.
- Tell your family you will call them when you arrive at your destination.
- Protect your personal information.
- When possible park your vehicle so you can see it from your room.
- Keep emergency funds.

Securing Information in the Workplace

Employees are expected to secure confidential information. Steps that can be taken to secure confidential information include, but are not limited to:

- Shred information rather than placing in a trash can.
- Lock computers and secure passwords.
- Secure MoDOT credit cards and account numbers.
- All hard keys and key cards should be safeguarded

E. Working on or adjacent to the Highway

MoDOT-approved high visibility safety apparel shall be worn by all employees while on or near MoDOT right-of-way.

When employees are working along or adjacent to the highway, they should, if possible, work facing the direction of approaching vehicles or traffic.

Employees must look in all directions before attempting to cross the highway.

When it becomes necessary for an employee to walk on a highway for any distance, while not engaged in actual operations, they should walk on the side facing in the direction of the approaching vehicular traffic.

Employees shall not wear headsets or earphones for the purpose of listening to the radio or music while operating a vehicle, equipment, or flagging.

▪ **Refer to Risk Management Manual Section 106 Class II & III Safety Apparel for more information.**