CHAPTER 3 – INSPECTIONS

3.6 AIR POLLUTION INSPECTIONS

3.6.1 Air Pollution Control Inspection Procedures

Purpose and Introduction

Air pollution inspections are conducted at regulated facilities that emit air pollutants. Air pollution inspections are conducted to observe operations, collect information and to evaluate facilities for regulatory compliance.

The purpose of this section of the Operations Manual is to provide basic procedures for conducting air pollution inspections. It expands on information in the Air Pollution Control Program's (APCP) section of the Department Compliance Manual. General information on conducting inspections is found in the Chapter 3.1, General Inspection Procedure section of the Operations Manual. Air Pollution Training Institute self-study courses such as Air Pollution Control Orientation, Introduction to Air Pollution Control and Baseline Inspection Techniques are offered on line and must be taken before the inspector conducts inspections. Inspection Procedures and Safety is a lecture course and should be taken when available. Visible emission training and certification must be obtained before inspecting facilities that have particulate or fugitive emissions.

Inspection Selection, Coordination and Timing

The selection of facilities to inspect is based on guidelines in the APCP's principal activities list. The regional office unit chief or section chief in coordination with the APCP develops the inspection list.

Facilities should be inspected when the plant is operating and operating under normal conditions. Asphalt batch plants usually don't operate in the colder months of winter. Concrete batch plants and quarries may also have limited production during these months. Fugitive dust sources should be inspected during typical Missouri weather conditions, not the day after a heavy rain. Inspect grain elevators during harvest season. Coal-fired power plants have periods when they shut down for maintenance, and peaking power plants usually operate in the hotter summer months. The inspector should check the relocation file for portable facilities to make sure they are on site.

Many of the federal regulations are extensive and complex. If practical, inspections should be planned so that facilities subject to the same rules are inspected one after another, for example two lead acid battery plants that are subject to New Source Performance Standards (NSPS), Subpart KK.

Preparation

File Review
The following items should be reviewed:

- Construction permits. Review the project description, special conditions, and the applicable regulation sections of the permit.

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- Air Pollution Control Manual (AP40), Compilation of Air Pollutant Emission Factors (AP42) and Environmental Protection Agency's (EPA) Technical Guideline Series. These manuals and reports should be read to become familiar with the facility's processes, emissions and pollution controls.
- Operating permits.
  - Part 70. The usefulness of these permits in preparing for the inspection depends on when they were issued. Recently issued or renewed permits are comprehensive and should have all the latest NSPS and Maximum Achievable Control Technology (MACT) rules. They should contain the construction permits and other rules that apply to the facility; however, they might not contain recently issued construction permits. Requirements in Part 70 permits that are often not in construction permits and rules are:
    - Additional record keeping.
    - Periodic Method 22 observations.
    - Annual Method 9 test.
    - Fugitive dust observations.
    - Submission of semi-annual monitoring reports and annual compliance certifications.
  - Intermediates and Basics. Most Basic and Intermediate notification/applications have not had APCP technical review. The information in them may not be accurate. The inspector should review *proposed* permit conditions, emission limitations and related record keeping requirements in Intermediate permits. Facilities can't amend a construction permit by making changes in their operating permit. They must amend the construction permit.
- Previous inspection reports, including emission point logs.
- Federal regulations such as NSPS, MACT, National Emission Standards for Hazardous Air Pollutants (NESHAP). The inspector should check the appropriate Code of Federal Regulations (CFR) or the EPA Air Toxics Web site to determine if MACT or other regulations apply.
- State air pollution regulations, including Reasonable Available Control Technology (RACT) rules in the St. Louis and Kansas City metropolitan regions.
- Prior Notices of Violation (NOV) and Notices of Excess Emissions (NOEE).
- Compliance Plans/Settlement Agreements.
- Correspondence between the facility and APCP.
- Emission Inventory Questionnaire (EIQ). The inspector should note mistakes and questionable entries in the EIQ.
- Process flow diagram and plant layout diagram.

Items to be taken on the inspection:

- Construction permits and operating permit.
- A copy of the emission log from the last inspection.
- The latest EIQ. If the latest EIQ isn't on file, one should be obtained from the EIQ unit in the Air Quality Analysis section.
- Pertinent documents such as consent agreements and compliance plans.
- MACT inspection checklists. The following MACT inspection checklists have been developed: Dry Cleaners, Chrome Platers, Wood Furniture Manufactures and Halogenated Degreasers. Check with the APCP periodically as they continue to develop checklists for additional MACT categories.
- A Global Position System (GPS) instrument.

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- A scentometer. It should be taken even if the facility isn't an odor source; the inspector may be directed to investigate an odor complaint when he or she is in the field.
- A compass and watch. These are needed to conduct Method 9 visible emission tests, odor detections, and fugitive dust violations.
- Various forms such as the NOEE/NOV, odor memorandum and visual determination of opacity.
- A copy of section (8) of the Missouri Air Conservation Law 643.050 that authorizes the inspector to enter and inspect at all reasonable times.
- Safety and miscellaneous equipment listed in the General Inspection Procedure section of the manual.

INSPECTION

Pre-entry
If the facility is new or has never been inspected before, location data should be obtained using a GPS instrument.

The facility should be observed for fugitive dust going beyond the facility's property boundaries, excess opacity and odors. Dust covering vegetation, parked cars etc., should also be noted. The inspector should photograph any excess opacity or fugitive dust emissions seen. If warranted, a Method 9 visible emission test or scentometer reading should be done before entering the plant. If odors are to be investigated, the inspector should go upwind of the facility to make sure the odors are coming from the facility and not another source. See the Barnebey Cheney scentometer instructions for odor investigation procedures.

A map should be drawn for fugitive, opacity and odor violations. Bearings, wind direction and speed, sun position, distances, street names, test location, etc. should be noted.

Opening conference
The inspector should inform the facility representative that he or she is there to conduct a routine air pollution inspection, and ask to go to their office to review the facility's permits and records. Any violations observed prior to entry should immediately be discussed with the facility representative to allow them the opportunity of timely observation and verification of the problem. The source of the excess emissions or odors should be investigated and noted. After this the inspection can proceed.

The inspector should review the following items with the facility representative:

- The emission point log, to determine what processes are operating the day of the inspection. This is also the time to determine what processes have been eliminated or added. If a process or equipment is inactive it should continue to be listed on the emission point log until it is actually removed.
- The construction permits and operating permit. The inspector should go through each special condition of each permit, and verify that the facility is conducting the required monitoring and recording keeping.
- The EPA federal regulations that apply to the facility, including notification, emission standards, testing, monitoring and reporting. If the facility needs assistance in complying with a current or proposed

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federal regulation the inspector may provide it. This would include directing the facility to EPA or department Web sites.

- The EIQ: the Air Quality Analysis section's EIQ unit conducts EIQ audits in coordination with the regional offices; however, the inspector should do a cursory review of the EIQ and check the following:
  - Completion of appropriate forms.
  - The process flow diagram and whether it accurately reflects the information on form 2.1 and other sections of the EIQ.
  - Determine if the emissions on the EIQ reflect the emissions recorded on permit required tracking sheets.
  - Where appropriate, tabulate the HAP emissions on forms 2.T to determine total HAP emissions.
  - Determine if the correct emission factors are being used.
  - Inform the facility representative of deficiencies in the EIQ. If the mistakes are significant an EIQ audit may be necessary. This matter should be discussed with the inspector's supervisor and the APCP's Technical Support section.
- The inspector should determine if the facility is on schedule in implementing compliance plans.
- Continuous emission and opacity monitor records to determine if they reflect what was submitted in excess emission reports and other reports.

The inspector should obtain copies of pertinent documents and records and verify required record keeping. The inspector should be selective; it isn't necessary to copy all records. Inform the facility representative of the approach to be used to inspect the facility. Mention that the inspection will proceed counter-flow to the emission points and that all of the emission points on the emission point log will be inspected. It is helpful to make a copy of the emission point log for the facility representative to have on the facility tour.

In certain situations it is better to conduct the plant tour prior to the records review. For example, when the inspector observes excess fugitive emissions from a quarry crushing plant. Another example is a facility that is required by the regulations to cover HAP and volatile organic compound (VOC) containers and has had a history of violating the regulation. The inspector needs to see the facility operating under normal conditions.

The facility tour

The inspection should start where the process emissions vent to the atmosphere (or sometimes vent inside the plant). This counter-flow approach allows the inspector to quickly observe excess emissions and conduct necessary Method 9 tests. After the emission point is evaluated, the inspector should inspect the control device and note operating parameters. These operating parameters should be compared to base line information such as performance test results. Maintenance records on control devices should also be reviewed at this time, if they weren't available in the facility representative's office.

The process is inspected and the production rate should be noted. Some processes have permit production limitations; other processes have restrictions due to performance tests conducted at a particular production rate.

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It isn't always practical to use the counter-flow method. It depends on the number of emission points and the location of control devices and processes in relation to the emission points.

The inspector should be on the lookout for newly installed equipment or equipment not listed on the EIQ. It should be noted in the emission point log whether the process is operating, and if it is the operating parameters of the process.

Often the conditions inside a facility will be noisy and communication difficult. The inspector should make a note of questions or comments that weren't fully understood during the plant tour so they can be discussed during the closing conference.

Closing conference
The findings of the inspection should be discussed. If applicable, NOEEs should be issued during the closing conference. Depending on the complexity of the enforcement issue, NOVs may be issued on site or later from the inspector's office. In some instances additional information is required before a decision is made to take enforcement action. If an NOV/NOEE is issued in the field it must be followed up with a cover letter and a copy of the notice. A letter of warning (LOW) is issued for minor violations. If after further consideration it is decided an NOV or LOW will be issued the facility representative should be contacted and informed before it is mailed.

The facility representative should be asked to mail or fax documents or records that were not available at the time of inspection. Deadlines should be set for required submittals.

POST-INSPECTION

Reports
The report should be written so it is understandable to the facility, the APCP and the next inspector. The report is easier to read if it is divided into sections such as construction permits, operating permits, federal regulations, RACT rules, etc.

The APCP uses a three-part, carbonless-copy form; an electronic form is available on the exchange drive. The advantage in using the electronic form is that it is typed and the comment section can be expanded. The report should contain the following information in the comment section of the form:

- Applicable federal regulations and compliance status. Many federal regulations are extensive and complex, but the actual requirements for a particular facility can be condensed and discussed in the report. The report should reference any checklist attachments such as dry cleaners, chrome platers, etc. The "Result Codes" section of the inspection form shouldn't be completed until the department adopts the regulation.
- Construction permits. It isn't necessary to list and discuss every permit, but those that have special operating conditions or emission limits should be. A facility may have numerous construction permits. Some of these construction permits may have no special conditions while others may have been superceded in more recent permits. A permit may have several conditions, but only a few may be important enough to discuss in the report. List permit emission limitations and their actual emissions. For

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example if a synthetic de minimis permit lists a limit of 14.9 tons of PM10 for a 12-month period, the actual emissions should be noted.

- Operating permits. The type, the number and the date of expiration should be listed. The *proposed* emission limits in Intermediate permits and their actual emissions should be noted. The compliance status and dates of required Method 9 tests, Method 22 and fugitive dust observations should be noted. The date the latest semi-annual monitoring report and annual compliance certification was submitted should also be noted. A reminder to renew the operating permit should be provided if appropriate.
- Complaints lodged against the facility and whether the complaint issue has been resolved or is ongoing.
- The status of NOVs previously issued.
- Implementation of compliance plans.
- Deadlines for any required submittals.

The inspector should complete the emission point log and provide details on emission units such as the type and capacity of a rock crusher, and whether it is subject to NSPS, Subpart OOO. Another example is a boiler - note the size, fuel type and whether it is subject to the NSPS.

Determining actual emissions and potential emissions.
There are situations where being able to calculate emissions is helpful. Knowledge of the actual and potential emissions allows an inspector to determine if a facility is subject to MACT, RACT and other standards. The inspector can also determine if a construction or operating permit is needed.

To calculate actual emissions, knowledge of the design capacity of the installation and the actual amount of material processed in a year is required. Calculating potential to emit involves multiplying the design capacity of the installation by 8760 hours per year and taking into consideration federal enforceable permit conditions such as emission limits and the use of air pollution control devices. The EIQ instruction booklet and 10 CSR 10-6.020 Definitions and Common Reference Tables should be read for more information.

REINSPECTIONS

A reinspection may be required in certain situations. For example, to verify that a compliance plan submitted to the department for a violation found during the initial inspection is implemented. This verification is particularly important when the violation affects the environment or area residents.

Checklists and Forms (See 3.6.4, Checklists and Forms)
These forms are available from the Air Pollution Control Program:

- MACT Wood Furniture Manufacturing Checklist, 40 CFR 63, Subpart JJ
- MACT Perchloroethylene Dry Cleaner Checklist, 40 CFR 63, Subpart M
- MACT Chrome Plating Checklist, 40 CFR 63, Subpart N
- MACT Halogenated Degreaser Checklist, 40 CFR 63, Subpart T

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3.6.2 Asbestos Inspections

Regulatory Citations

The Missouri Air Conservation Law, Chapter 643 RSMo., provides the statutory authority for inspecting asbestos activities. Areas of the statute specific to asbestos may be found in Chapter 643.225-643.265.

The regulatory authority for conducting asbestos activities is found in three regulations, 10 CSR 10-6.080 *Emission Standards for Hazardous Air Pollutants* (3)(M) *National Emission Standard for Asbestos,* 10 CSR 10-6.241 *Asbestos Projects-Registration, Notification and Performance Requirements; and* 10 CSR 10-6.250 *Asbestos Projects-Certification, Accreditation and Business Exemption Requirements.*

The "no stricter than" provisions in the Air Conservation law prohibit state regulations from being more stringent than those set forth in the Clean Air Act and regulations. Inspectors need to be careful to ensure that none of the statutory language in the Air Conservation law that appears more stringent than the federal *National Emission Standard for Asbestos* is cited in violations. Also, 10 CSR 10-6.240 - *Asbestos Abatement Projects* was found to be more stringent than the federal regulation and has been rescinded.

The asbestos inspection form currently in use for compliance inspections only addresses the requirements of 40 CFR Part 61, Subpart M, *National Emission Standard for Asbestos (NESHAP).* The department has delegated authority to implement and enforce only these requirements. Some of the training you will receive (the 40-hour Contractor/Supervisor) will cover several specific areas of "state of the art" work practices. These work practices are generally reflective of the Occupational Safety and Health Administration (OSHA) asbestos requirements found in 20 CFR 1926.1101. Contractors should be using these work practices so you need to have a good understanding of how an abatement project should be conducted in order to be fully compliant. While you cannot enforce any requirements other than those of the NESHAP, you should be able to recognize and comment or make recommendations towards ensuring regulatory compliance. Noncompliance with OSHA standards may be referred to the appropriate OSHA district office.

Asbestos Training and Equipment
In order to conduct a qualified compliance inspection or complaint investigation, staff must be adequately trained and have the resources necessary to complete the job. Staff whose duties include inspection of asbestos abatement projects or investigation of asbestos complaints must complete both the 40-hour Asbestos Contractor/Supervisor and the 24-hour Asbestos Inspector courses. Lists of training providers may be found on the Air Pollution Control Program's Asbestos home page. Upon successful completion of these courses the Air Pollution Control Program will provide occupational certification for both disciplines. Copies of the certificates must be carried during field activities. Staff must also participate in annual refresher training for both disciplines. Medical monitoring, respirator fit testing and medical clearance to wear a respirator are also required. Respirator fit test results must also be carried during field activities. An adequate amount of on the job training with experienced staff must also be provided.

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In an effort to improve information flow, a web group forum for asbestos questions or issues has been established. All local agencies and regional offices are represented in this group. Staff is encouraged to make frequent use of this resource. The Environmental Protection Agency, (EPA), Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have web resources for obtaining asbestos information. The EPA also maintains the Applicability Determination Index (ADI) for researching a variety of regulatory issues, including asbestos. Be advised, some of the guidance on the ADI has been superseded. Some useful Web addresses may be found at:

- In-house Web group: asbestosmodnr@yahoo.com
- EPA page: http://www.epa.gov/asbestos/
- OSHA page: http://www.osha.gov/SLTC/asbestos/index.html
- NIOSH page: http://www.cdc.gov/niosh/topics/asbestos/
- EPA ADI: http://www.epa.gov/compliance/monitoring/programs/caa/adi.html
- EPA ATW: http://www.epa.gov/ttn/atw/index.html

Equipment
Inspectors must be equipped with a kit containing items such as a flashlight, waterproof marker, spray bottle, disposable rubber gloves, hammer, pry bar, screwdriver, utility knife, small trowel, tape measure, sample containers, wet wipes for decontaminating tools, duct tape, spray adhesive and respirator wipes. Disposable protective clothing such as Tyvek® should be carried. Steel toed shoes, a hard hat and camera must also be available. Copies of the federal and state regulations must be available for reference during an inspection.

Inspection Report Content
Complete all applicable portions of the inspection report. Complete as much of the report as possible prior to the inspection. This information is available from the project notification. Copies of all inspection reports are to be provided to the source or abatement contractor. The requirement for providing written reports may be found in the Missouri Air Conservation Law, Chapter 643 RSMo.

If Notices of Violation are issued they need to accompany the inspection report. For instances where violations are noted but inspector discretion is used, a Letter of Warning (LOW) should accompany the report. All LOW's should require a written response. A failure to respond or an inadequate response would warrant issuance of a Notice of Violation. Deficiencies noted during inspections or investigations that could potentially lead to a violation must be documented, along with the inspector's guidance for addressing the deficiency.

Asbestos Inspections
The most frequent oversight in using the state inspection checklist is the failure to verify the individual who conducted the asbestos inspection of the building or work area was properly certified. If the asbestos inspection report is not on-site during the abatement or demolition project either the contractor or building owner should be requested to provide, at a minimum, a copy of the summary sheet, the certificate of the inspector and bulk sample results. Lists of currently certified inspectors, supervisors, workers and registered contractors, forms and technical bulletins may be viewed at the

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asbestos home page. A complete copy of the report will be requested if suspect materials are noted and are not included in the scope of abatement work or will not be removed prior to demolition. The state or local inspector must ensure sampling has been performed on all suspect materials to be impacted by the project. For demolition projects, these materials must be analyzed and the results provided prior to the onset of demolition.

Narrative comments will be provided to accompany the checkboxes of the report. Ideally, any reviewer should be able to visualize the project as the state or local inspector saw it. Those topics covered in the 40-hour asbestos supervisor course are areas to inspect and comment on. The inspector needs to be familiar with these areas and should reference their course material as needed. The manual for EPA's Course #350 NESHAP Asbestos Inspection and Safety Procedures is also an excellent reference. Detailed comments must be included when violations are observed or when verbal warnings are conveyed. If the project involves gross removal inside containment and no viewing window is provided, the inspector should enter containment. If viewing windows are available and allow adequate observation of the area and work practices, entry inside containment is not necessary.

If violations are observed they shall be documented in writing, properly photographed and samples collected. The written description and photographs will establish the types and quantities of asbestos materials involved and all responsible parties. Inspectors will use proper sampling techniques including wetting sample material, respiratory protection and protective clothing such as gloves, suits, foot coverings or hard hats. Sample containers may include plastic film canisters, zip lock bags or plastic tubes from coring equipment. A proper Chain of Custody must be prepared and kept for all sampling events. Used gloves and wipes must be properly packaged and disposed of as solid waste. You must collect samples to support a violation that a specific material contains asbestos.

Documentation

All documents reviewed, taken or prepared by the inspector will be noted and related to specific inspection activities. Examples would include air monitoring results, daily logs, worker certifications, sample or photograph locations, worker or supervisor comments or work plans.

- Any unusual conditions and problems will be noted and described in detail. Examples would include no water source available for wetting, no electricity available, shower water being discharged to the ground, dry sweeping.

- Names and titles of facility personnel and the activities they performed.

- Identification numbers. Each piece of evidence collected or observed will be included in the field notes and report. A site sketch (see example) showing photograph and sample locations and physical descriptions is critical to document any unsatisfactory conditions. Include descriptions of the work practices being used and waste handling procedures.

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Observations
Drive around the site and try to establish the magnitude and location of the project within the facility.

Make note of areas to visit (job trailer, waste storage area, active work areas and areas already abated, waste loadout area, negative air machine exhaust locations).

Look for visible emissions to the outside air (debris around the waste storage area, outside the entrance to the work area or waste loadout areas).

Gaining Entry
Conduct the inspection during normal working hours or whenever the project is scheduled. Advance notice may be necessary to gain access to buildings that are to be demolished.

If requested, provide your asbestos occupational certificates and respirator fit test results.

Abatement Inspections

- Review the supervisor's records. The supervisor should have a job book containing the project notification, contractor's registration, worker certifications and photographs, AHERA building inspection results, waste manifest, waste bag labels, air monitoring results, and daily activity logs.

- Discuss and document the work practices being used.

- Is amended or straight water being used? Observe and write down the name of the surfactant being used as the amendment.

- Is an encapsulant or lockdown being used after final cleaning? Observe and write down the name of the product being used. The use of lockdown encapsulates is not required.

- Where is the electrical panel? Are ground fault interrupters in use?

- Has appropriate signage been posted to the work area?

- Is the work area under negative pressure? What is the volume of the work area and how many negative air machines are in use? What are they rated at? Are they providing four air changes per hour? Do they exhaust outside or inside the building? Are there any backup machines available?

- Observe the flaps over the entrance to the clean room and waste load out area. Are they triple or double flaps? The negative air units should be pulling the flaps into or towards the work area. Has the supervisor smoke tested all access points to ensure the work area is under negative pressure? Does he have smoke tubes? Negative pressure can also be demonstrated by using a manometer to measure the pressure difference

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between inside and outside the work area. Manometer pressure differential should be at least –0.02 inches of water.

- How often are the pre-filters on negative air units being changed? Are they being disposed of as asbestos waste?

- Are glovebags being used? Are these standard or negative pressure glovebags? Are they working in two man teams to glovebag?

- Observe how containment over the work area has been constructed. Has a full three stage decontamination unit been provided, is there a separate waste load out area, what thickness and how many layers of poly has been used on the walls and floors, were critical barriers installed over all windows/doors/HVAC registers?

- Look for water leaks from containment and breeches in the walls or ceiling where the electrical service or water is provided to the work area. These should be corrected before the inspection is completed.

- Is there a shower unit? Is hot and cold water provided? Soap, shampoo and towels? How is the water filtered and disposed of? Water should be filtered down to five microns and disposed of into the sanitary sewer. Water may not be discharged to storm sewers or onto the ground. Landfills will not accept drums of water or any other free liquids for disposal.

- Are you going inside containment? If so, review the worker personal air monitoring results. Respirator selection is dependent on exposure. High personal air monitoring results may also indicate dry removal or inadequate wetting of asbestos containing materials. A half-mask respirator with HEPA cartridges will provide protection for fiber counts up to 1 fiber per cubic centimeter. However, the recommended maximum exposure level for a half-mask respirator is 0.1 fibers per cubic centimeter.

- Ideally, you will follow the same procedures as the workers in using protective clothing and showering out. Look for evidence of tracking asbestos materials into the decontamination unit as you enter the work area and in the locations where waste loadout occurs. All asbestos containing materials should be adequately wet. Dry removal is not allowed without prior approval and only in limited circumstances. Power tools or compressed air should not be used.

Waste Area Observations

- Most contractors use pre-labeled asbestos waste bags. But, all waste bags or wrapped bundles must also have site specific labeling attached. Randomly inspect bags or bundles in the waste area for proper labeling. Label requirements are specified in §61.150(a)(1)(iv) and (d).

- All bagged or containerized waste should be adequately wet. Moisture may be evident in the bottom of bags, be visible through the bags or the material may feel wet or soft to the touch. Bundled piping removed in

"wrap and cut" procedures need not be wet provided they are contained in leak tight wrapping. Sealed drums should be opened randomly for inspection. If dry material is discovered it will be photographed and sampled. Sample description can be crucial, e.g. "a visible emission of dry material to the air was observed as the lid on the drum was lifted off". Bags or drums of dry materials should be taken back into the work area, if feasible, and wetted.

- Vehicles used to transport asbestos waste will be marked or placarded during loading and unloading activities. Waste shipment records may be available for inspection. Placards or labels will conform to §61.149(d)(1).

Post-abatement Inspections
Inspection of an abatement project where the contractor has completed work shall reveal no friable asbestos containing materials that have been missed or debris from abated materials. The regulations are specific that all regulated asbestos containing material shall be removed prior to demolition or renovation. There is no distinction in work quality between a building that is to be torn down versus one that is to be reoccupied. Materials that are discovered shall be photographed, sampled and well documented. The contractor and owner are to be advised of these materials and to return and properly remove them.

Demolition Inspections
A complete copy of the asbestos inspection report done on behalf of the owner or operator is necessary to conduct an inspection prior to demolition of a building. Make sure all suspect materials have been identified. Randomly look in areas that are frequently overlooked. These areas may include above drop ceilings, in pipe chases or wall cavities where pipe risers may occur, beneath subfloors, duct boots at floor heat registers, lighting fixtures, roofing materials and caulks. If you discover suspect materials that have not been sampled or included in the asbestos survey, point these out during the inspection and include in your report. Request copies of the sample results from these suspect materials. Demolition should not occur until your concerns have been addressed. If nonfriable materials are to remain in the structure the issue of potential friability should be discussed, and documented, with the owner or operator. Familiarity with solid and hazardous waste requirements is also recommended.

Unsafe structures
Competent local or state officials should make Unsafe Building Declarations. These officials may include local building or code officials, law enforcement or fire department personnel. In some cases department staff may need to make or agree with this decision. If possible, owners or operators of unsafe or damaged structures should have them inspected prior to demolition. If a building is only partially damaged but is to be completely demolished, the structurally sound portion should be inspected. Asbestos removal from this part of the building may be required. The damaged or unsafe portion should be wetted during demolition and inspected once the debris is on the ground. The discovery of friable or damaged nonfriable asbestos containing materials commingled in the building debris may result in all of the waste being

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considered as asbestos containing waste. Decontamination and segregation of large items such as steel beams or intact portions of roofing or wall sections may be possible.

Landfill Inspections
Landfill operators must comply with §61.10 (Source reporting…), §61.153 (Reporting), and §61.154 (Standard for active waste disposal sites). EPA has produced an inspection form that can be used in landfill inspections. Keep in mind, most active landfills are subject to a federal *New Source Performance Standard* for nonmethane organic compound emissions and may have a Part 70 or Intermediate Operating Permit. Inspections at landfills should include both NESHAP, NSPS and any permit requirements. Also, the Solid Waste Management Program typically conducts quarterly inspections at active sanitary landfills. You may want to coordinate inspection activities with staff doing solid waste work.

3.6.3 Gasoline Vapor Recovery

Purpose
The purpose of this section is to establish uniform procedures for conducting Gasoline Vapor Recovery Inspections in the St. Louis Non-Attainment Area and the Stage I Testing and Inspections in the Kansas City Area.

Application
This procedure applies to all department personnel involved in the Gasoline Vapor Recovery Inspection Program in St. Louis and the Stage I Inspection Program in Kansas City. The basic inspection procedures will follow the guidelines of Chapter 3.1 “General Inspection Procedures” while allowing for the uniqueness of the Vapor Recovery Inspection/Enforcement Rules, and Air Program Policies.

The rules and requirements for the St. Louis program vary a great deal from those in Kansas City. While some of the equipment and procedures are the same, the St. Louis Area program has a much more detailed inspection program than Kansas City, which results in more training and more responsibilities for the St. Louis inspectors. This requires that this section of the Operations Manual have separate procedures for the Vapor Recovery Programs in St. Louis and Kansas City.

ST. LOUIS GASOLINE VAPOR RECOVERY

- In St. Louis, Gasoline Vapor Recovery Inspections are conducted two times per year at all gasoline dispensing facilities with gasoline storage tanks having a capacity greater than 1,000 gallons as required by 10 CSR 10-5.220 “Control of Petroleum Liquid Storage Loading and Transfer”. These inspections are unannounced and include an inspection of the required paperwork and permits, a complete inspection of the gasoline storage delivery equipment and the dispensing equipment to determine the condition of the vapor recovery equipment at the facility. The inspector also determines that all of the equipment meets the Missouri Performance Evaluation Test Procedure (MOPETP) requirements. Enforcement is done on site in the form of Notice of Excess Emissions, Notice of Violation, and Notice of Violation with tagging out of severely damaged equipment. The enforcement protocols for what action to take are provided in the Vapor

Recovery Defects List. This list and the enforcement requirements were compiled using California Air Resource Board (CARB) guidelines and Air Program Policy. It was submitted to the United States Environmental Protection Agency in 1995 in the "St. Louis Non-Attainment Area Technical Guidance for Stage I/II Gasoline Vapor Recovery Manual" as part of the Department request for SIP approval and approved. It is provided to all owner/operators, equipment contractors, Designated Persons, and inspectors.

- Reinspections of facilities where deficiencies are found are done upon notification that repairs have been made if equipment has been tagged out of service or at least 15 days after original inspection at facilities where minor defects were found. During Reinspections, only equipment cited as defective in original inspection is checked.

- The Vapor Recovery Permit Program in St. Louis requires oversight inspections and testing for Operating Permit renewals and new operating permits following construction. These are scheduled tests and the inspections associated with them are not included in the two inspections per year requirement of the Vapor Recovery Rule. There is normally no enforcement action taken. If the facility fails the testing, the facility is given time to find and make repairs and retest.

- Construction Inspections are required, especially for all new facilities and piping replacement prior to backfill with the system under five pounds per square inch pressure. These are scheduled inspections of the vapor piping looking at the diameter, slope, and materials used.

KANSAS CITY VAPOR RECOVERY STAGE I INSPECTIONS

- In Kansas City, unannounced Gasoline Vapor Recovery Inspections are conducted at all gasoline dispensing facilities with gasoline storage tanks having a capacity greater than 2,000 gallons as required by 10 CSR 10-2.260 "Control of Petroleum Liquid Storage Loading and Transfer". The number of inspections is determined by agreement between the Kansas City Regional Office (KCRO) and APCP in the work plan, i.e., one per year at each facility. Enforcement actions follow the guidelines given in the Stage I Defects list.

- Test inspections are scheduled as part of the oversight for a required Leak Decay Test to be done every five years. They include an inspection of the required paperwork and a complete inspection of the gasoline storage delivery equipment. Letters are sent to owner/operators notifying them that they need to schedule the test.

- Pressure/Vacuum Valves on storage tank vents are to be tested every 2 years or whenever replacement is necessary. These are scheduled tests with the inspector providing oversight to validate the results.

Delivery Surveillance

St. Louis and Kansas City have the same requirements for Stage I deliveries to facilities by tanker truck except for the facility storage tank size requirements. Drivers are required to use one three-inch vapor return line per four-inch product line used for the delivery on any storage tank required to have the Stage I System. The tanker is to be tightness-tested annually by

a test contractor that must follow all criteria and standards established by Method 27, appendix A, 40 CFR Part 60 and 40 CFR part 63.426(e). The owner is required to submit the test results to APCP for a Missouri Sticker that is to be placed on the upper left portion of the back of the delivery vessel.

An NOV is to be issued to the driver and the delivery company for failure to comply and automatically referred to APCP for enforcement action. Inspectors are encouraged to stop and visit with drivers whenever they observe a delivery whether they are in violation or not. This gives inspectors the opportunity to talk to drivers, answer any questions they have, and to thank them for doing a good job if they are correct.

Inspection Selection and Coordinating

- **St. Louis** - To minimize travel time, insure that all facilities are inspected, maximize inspection time, and to assure that inspectors are available to assist each other in the event of tag outs, the inspections will be done by county. As one county is completed, inspections forms for each active facility and those that have tanks in place in the next county will be printed. The forms will then be grouped by city and placed in a location all inspectors have access too. Each inspector is to complete all facilities in one city before moving on to the next group.

- **Kansas City** - The number of unannounced Stage I facility inspections is determined by agreement between KCRO and APCP. When the number of inspections is determined, the staff will determine the best way to reduce travel time and enhance the use of the inspector's time.

  The five-year test inspections are scheduled in response to notification to test letters sent out by KCRO. The facilities to be tested are determined by database records indicating when tests are to be done.

P/V valve tests are scheduled as needed as determined by the database or when new valves are installed.

Inspector Training

- **St. Louis** - All personnel involved in Vapor Recovery in the St. Louis Area are required to attend a 40-hour vapor recovery course developed and given at the St. Louis Regional Office (SLRO). They are also required to attend an Annual eight-hour Refresher Course and at least one of the eight-hour Designated Person Training classes developed and taught by the SLRO.

  All new inspectors will field train with an experienced inspector until they are judged competent enough to go out on their own.

  Because of the dangers of gasoline and the hazardous chemicals, all inspectors must have the 40-Hour Hazardous Materials Health and Safety Certification (HAZWOPER) and maintain that certification by attending the Eight-Hour Annual Refresher Course. If medical monitoring is required by department policy the inspector shall participate.

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- **Kansas City -** New inspectors are field trained by existing staff on test procedures and equipment violations. The KCRO staff recently attended a 16-hour training course presented by SLRO and APCP personnel. Plans for an annual eight-hour refresher have been discussed.

  Because of the dangers of gasoline and the hazardous chemicals, all inspectors must have the 40-Hour Hazardous Materials Health and Safety Certification (HAZWOPER) and maintain that certification by attending the Eight-Hour Annual Refresher Course. If medical monitoring is required by department policy the inspector shall participate.

General Inspection Procedures
There are several different types of Vapor Recovery Inspections. Each has its own inspection criteria and goals. St. Louis and Kansas City have different rules, but they have the same type of inspections. The types of inspection are:

- **Standard Inspections** done two times per year in St. Louis and the number determined in agreement between KCRO and APCP in Kansas City. These inspections check the condition of the equipment at the facility and the facility's compliance with the rule regarding paperwork and other issues. Equipment defects and noncompliance issues result in NOVs, NOEEs, and the tagging out of equipment as described in the Defects List. The facility can repair all or part of the defects while the inspector is on site to avoid some or all of the enforcement issues.

- **Reinspections** are done whenever defective equipment is found during the standard inspection. They are done 15 or more days after the initial inspection or if a facility has a tag out, as soon after notification of repairs being made as the schedule permits. Only equipment cited during the original inspection is checked unless the inspector notices a new major defect while there.

- **Test Inspections** are scheduled inspections done at the time of the operating permit test in St. Louis or the Five-year test in Kansas City. The inspection is the same as in the regular inspection, but the drop fill tube length is measured to determine if it extends to within six inches of the bottom of the storage tank in both Kansas City and St. Louis, and the under dispenser plumbing is inspected in St. Louis. Since the equipment has to be in good condition to pass the tests and any equipment that fails the test or causes failure during the testing is repaired or replaced, there is usually no enforcement action taken. If the facility fails the test they are told to find and fix the problem and schedule a retest. In St. Louis, if they need to break concrete to make repairs, the facility needs to amend their existing construction permit or apply for a new construction permit once they have located the problem.

PRE-INSPECTION PROCEDURES

Equipment
The inspector will collect and organize all equipment that may be needed for conducting the type of inspection planned. The test contractor is required to supply the test equipment; however, SLRO and KCRO do have some of the test equipment that they can take with them as a backup. The following is a list

of equipment specifically for Vapor Recovery Inspections and testing. The inspector may wish to refer to the General Inspection Procedure section of this manual for additional equipment they may want or need.

- Road Maps for each county
- Clip Board
- Ball Point Pen
- Screw Driver or Small Pry Bar
- Yellow Paint Pen
- *"Do Not Use"* Tags
- Zip Ties
- Diagonal Wire Cutters
- Vinyl or Plastic Gloves
- Traffic Vests
- Safety Cones
- Test Board for Leak Decay and Backpressure Tests
- Test Board for Pressure/Vacuum Valve Tests
- Test Procedures Manual for all tests
- Manometer (Liquid or Electronic)
- Dispenser Keys
- Calculator
- Folding Tank Stick with hook at lower end
- Leak Tight Case to Store Tank Stick in vehicle
- Camera

Forms
The inspector will have all forms and information sheets for the type of inspection planned. These include:

- blank Vapor Recovery System Inspection Forms [MO 780-1566 (4-03)] (SLRO)
- blank Stage I Vapor Recovery Inspection Forms [MO 780–1784 (6-02)] (KCRO)
- Notice of Violation/Excess Emissions Form [MO 780-1641 (12-03)]
- Notice of Violation/Excess Emission Procedures Handout
- Gasoline Delivery Truck Surveillance form

Available from APCP:
- Static Pressure Test Data Sheet [MO 780-1720 (05-00)](SLRO AND KCRO)
- Dynamic Back Pressure Test Data Sheet [MO 780-1720(05-00)](SLRO only)
- P/V Valve Bench Test Oversight Form [MO 780-1721 (05-00)] (SLRO AND KCRO)

Available from Regional Offices:
- Stage I Vapor Recovery Inspection Form [MO 780-1784 (6-02)](KCRO)
- Paperwork Required Guide Sheet (SLRO)
- Pre-printed Vapor Recovery System Inspection Form MO [780-1566 (4-03)] (SLRO). Form is pre-printed using facility database and a dot matrix printer with all pertinent information about the facility. This includes Facility ID Number, Name, address and County, owner name and address, designated person, operating permit expiration date, Type of Stage I and Stage II System, number of nozzles, and tank number and size. (SLRO)

Record Review
The regular inspections do not require any review of facility files prior to the inspection, because the inspection is to determine the condition of the facility system and equipment at the time of the inspection. The inspector will review the original inspection and enforcement reports to remind them of the defects found and any tag outs at the facility during the original inspection when preparing for the Reinspection.

Test and construction inspections in St. Louis will require a review of the current permit file to review permit applications and fee payment prior to the inspection.

In Kansas City, a records review prior to the test inspection or the P/V testing may be needed to determine compliance and response time of the facility.

SITE INSPECTION PROCEDURES
The inspection procedures will follow the basic guidelines as reference in the General Inspection Procedures with variations generated by the differences for Vapor Recovery inspections noted in this section. The inspector will at all times remember to be courteous and respectful to the facility personnel and the customers.

ST. LOUIS

Regular Inspections

- Initial Contact - Upon identifying themselves and their purpose, inspectors will begin the inspection by asking if the facility information on the inspection form is correct. If there are changes, the inspector will make them on the form. The inspector will then request to see the facility's Vapor Recovery Operating Permit, the Designated Person Certificate, the Self Inspection Records, and the last four gasoline delivery records for each grade of product. If facility personnel can not find these records, the inspector can provide them with the Paperwork Required Guide Sheet and request they contact the Designated Person and locate the missing items while the inspector is doing the equipment inspection. The inspector will go back into the facility after the equipment inspection to check the paperwork. Regardless of whether paperwork is checked before or after the physical inspection of the equipment, the inspector will note on the inspection form what was found. Prior to the start of the actual inspection, the inspector will offer the facility representative the option of accompanying the inspector during the inspection.

- **Inspection Procedures**
  Before starting the actual inspection, the inspector will make a drawing of the facility showing street location(s), the location of the building, all of the storage tank fill ports, vapor ports, and vents, and the location the gasoline dispensers. The gasoline fill ports will be identified by the letters A, B, C (Tank farthest to the left as seen from the building or closest to the street is labeled "A"). Fill ports for diesel and kerosene will be labeled by product. Vapor ports will be identified as VPA, VPB, VPC with the A, B, C matching the tank label associated with the vapor port in the drawing. The nozzles will be identified using the dispenser numbers and/or the numbering of each nozzle

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starting with the left dispenser farthest from the building as seen from the building.

The inspector will look at each fill port, vapor port, vent and hanging component on the dispensers looking for damaged equipment, unapproved components, product leaks, or indications of problems with the vapor system.

As defects are found, the inspector will note them on the inspection form using the description given in the Vapor Recovery Defects List and identifying them by the component label number in the drawing. The inspector will mark the defective equipment using a yellow paint pen if there is physical damage to that equipment.

Any defects found in equipment that the facility has voluntarily closed, regardless of the reason for closure will be noted on the inspection and NOV/NOEE Forms as “Closed by Facility”, but will not be tagged out of service by the inspector.

- **Enforcement**
  Upon completion of the inspection, the inspector will determine what enforcement action is to be taken based on the Vapor Recovery Defects List. If there were no defects or problems found, the inspector will indicate “NO DEFECTS” in the Inspection Findings portion of the form and “RESOLVED” in the Inspector Actions Section, sign and date the form and complete the final interview. If defects were found, an NOV/NOEE Form will then be completed. The inspector will list all of the NOV defects found in one group and the NOEE defects in another. If “Tag Outs” are required to the Stage II System, the inspector will secure the nozzle with the bad equipment and a “DO NOT USE” tag to the dispenser with a zip tie. The inspector will then record the component label Number and the totalizer number from the dispenser on the inspection form and the NOV form. If a defect in the Stage I components is severe enough that the tank must be tagged out of service, the inspector will stick the tank or use the tank monitor system to determine the amount of product in the tank and record it on the inspection form. The totalizer numbers from each nozzle that draws product from that tank are to be recorded on the inspection and NOV form. The “DO NOT USE” tag will be attached to the Fill Port Cap of the tank being closed. The tag out of a storage tank means that the facility may sell the product in the tank, but may not receive deliveries to that tank because of the Stage I deficiency until repairs have been made and a Reinspection done.

  If the facility has the equipment and someone to make the repairs on site, the inspector will allow them to make repairs to all or part of the defects found. Any repaired items will be marked as “Repaired on Site” on the Inspection and NOV/NOEE Forms. The inspector may decide to go on to the next facility and come back later in the day. If this is done, the inspector will have to use a hand written inspection form and follow the Reinspection Guidelines.

Reinspections
Upon notification from the facility that all repairs have been made if equipment was taken out of service, the inspector will return to the facility for a Reinspection. The Vapor Recovery Rule allows four (4) working days to

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do this Reinspection. However, the Unit policy is to complete these "Tag Out" Reinspections within 24 Hours of notification of repairs.

If a facility had defects, but no equipment was taken out of service, or had equipment out of service, but did not contact the inspector with notification of repairs being made, a Reinspection will be done after 15 days from the date of original inspection.

The inspector will review unresolved inspections and NOV/NOEEs weekly to determine when Reinspections are to be done. The inspector will pre-print inspection forms for all facilities needing to be re-inspected prior to going to the field to do those Reinspections.

- **Initial Contact**
  Unless the facility had paperwork violations cited in the initial inspection, the inspector may begin the Reinspection upon arriving at the facility without announcing his/her presence.

- **Facility Drawing**
  The inspector will use the drawing made and the defects cited on the on the original inspection form to locate and re-inspect the equipment.

- **Reinspection Procedures**
  The inspector will look only at equipment cited during the original inspection to confirm that it has been repaired. This includes equipment that had defects, but had been closed by the facility.

  If all defects cited during the original inspection have been correctly repaired, the inspector will note "All Defects Repaired" in the Inspector Findings Section of the Inspection Form and "Resolved" in the Inspector Action Section, sign and date the form and proceed to the exit interview.

  The inspector will check the totalizer numbers on Stage II equipment that was tagged out and compare to the original inspection value. If there is no difference or a small difference (less than 25 gallons), the inspector will indicate "Tot Numbers Match" on the Reinspection form. This is allowed because when hanging gear is removed, product drains from the hose. The repairman must recharge the hose and check for leaks when the components are reassembled. Missouri Department of Agriculture Division of Weights and Measures may visit the location between the Inspection and Reinspection to do their Calibration Test or take samples for compliance determination for fuel quality and octane. This allows them to complete the entire facility in one visit.
  If a piece of equipment tagged out during an inspection or Reinspection was used to dispense product without being opened by the inspector, the inspector will note on the inspection form "Dispensed illegally". The inspector will write the original totalizer number and the current totalizer number on the inspection form and determine the gallons dispensed. The violation will then be referred to APCP for enforcement action. If repairs were not made, the nozzle will be retagged.

  If a storage tank component was tagged, the inspector will stick the tank and determine the amount of product in the tank and record all totalizer numbers from dispensers using that tank. The comparison of product sold between inspections from the totalizer numbers and the amount of product

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currently in the tank will indicate if a delivery was made. If a delivery was made, the inspector will cite the facility for an illegal delivery with an NOV. The inspector will obtain a copy of the delivery record to determine the delivery company and driver so that NOVs can be issued to them by Registered Mail for an improper delivery to a tagged out storage tank. The violations will then be referred to APCP for enforcement action. If repairs were not made, the tank will be retagged.

If some or all of the defects cited have not been repaired or improperly repaired, the inspector will immediately talk to a facility representative on site to determine why. Depending on the facility's explanation, the inspector will determine what to do. The original NOV/NOEE may be continued for a limited time period determined by the inspector or the equipment may be tagged out of service and a new NOV issued for "Failure to Repair" or "Improper Repair". These actions will be documented on the inspection form and the NOV form (if issued). If the NOV is issued, the "Tag out" procedures will follow the guidelines given in the Original Inspection Enforcement Procedures.

Paperwork violations cited in the original inspection that are not in compliance at the time of Reinspection will be issued a second NOV, which will be referred to APCP for Enforcement Action. The inspector will document the violation on the inspection form and the NOV. The original inspection and NOV will be resolved if all of the physical defects are repaired.

If a new defect is seen during the Reinspection, the inspector may note the defect on the inspection form and determine if new enforcement action is required or work with facility personnel to allow them to repair the problem without enforcement action.

- **Enforcement**
  Enforcement procedures for Reinspections will be the same as for the original inspections with some inspector discretion allowed depending on what the inspector is told and the documentation to support the facility claims.

  Paperwork and Dispensed Illegally violations will require the issuing of a second NOV. The original NOV/NOEE will be resolved if all other defects are repaired or resolved. This will be noted on the Reinspection form.

Operating Permit Test Inspections

- **Initial Contact**
  The initial contact is made by the test contractor or the owner when they submit an application and fee payment to renew the five-year Vapor Recovery Operating Permit or an application for Construction/Operating Permit.

  The test contractor contacts the Vapor Permit Engineer to schedule a time for the tests. The engineer is usually responsible for overseeing the testing, but any of the inspectors in the Vapor Recovery Unit may do these tests if the engineer is not available.

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The inspector will review the permit file for the facility and make sure that they have the pre-printed inspection form and the three test forms required and any equipment needed prior to arriving at the site.

Upon arriving at the site, the inspector will meet with the contractor to begin the testing. Test procedures, a discussion of possible problems the contractor has noted, and what he has done to correct those problems prior to the arrival of the inspector will be included. The inspector will note these on the inspection form. The inspector will also confirm that the facility has not had a gasoline delivery within the last four hours, which is a requirement of the test procedures.

- **Facility Drawing**
  A complete drawing of the facility following the guidelines under Inspection Procedures will be done on the "*Dynamic Back Pressure Test Data Sheet*" prior to the start of the test.

- **Inspection**
  Upon completion of the initial interview, the contractor will close the dispensers to gasoline sales. The test procedures require that the facility be closed at least 15 minutes prior to the start of the Leak Decay Test. The contractor will then determine the amount of gasoline in the storage tanks using a stick and tank chart or the Automatic Tank Monitoring System. The contractor will then remove the P/V Valves from the vents for testing.

  The inspector will perform a complete inspection of the Vapor Recovery System as described in the Inspection guidelines above. In addition, the inspector will measure the lengths of the drop fill tubes and inspect the under dispenser vapor plumbing.

  The contractor will check the P/V Valve test board for leaks and install the valve on the test board. The test will be done following the guidelines given in the December 4, 2002 P/V Valve Test (Interim Procedure) from APCP. The test data will be recorded using the *P/V Valve Test Oversight Form* by the contractor and/or the inspector. The passing P/V Valves will then be installed on the vents.

  The Leak Decay Test will then be done following the procedures given in *MO/TP- 201.3, 3A, 3B Static Pressure Test.* The tank information and the data gathered earlier with the number of gallons is to be entered on the Static Pressure Test Data Sheet to determine the amount of ullage in the storage tank(s). The ullage and the number of nozzles at the facility are then used to determine a final allowed pressure from a chart. The fill and vapor port caps are removed and Nitrogen is allowed to flow into the system at one of the vapor ports to a pressure of 2 inches of water column pressure. The Nitrogen line is disconnected and the pressure is recorded every minute for five minutes. If the final pressure is above the allowed final pressure, the facility passes. If the tank pressure falls below the allowed final pressure during the five minutes, the facility fails and the leak source has to be identified and repaired before starting again.

  If the problem cannot be identified or repaired the test will be cancelled. The facility owner is required to find and fix the problem and

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reschedule the testing. The inspector will note the problem on the inspection form.

If the facility passes the Leak Decay Test, the contractor will confirm that the storage tanks are manifolded together by opening the vapor ports on the other gasoline storage tanks while the inspector observes the pressure gauge for the expected pressure drop. If the tanks are not manifolded, the test must be done again testing each tank separately using the product volume of each tank and the number of nozzles from each tank to determine the final pressure allowed.

After passing the Leak Decay Test, the contractor will set up the Dynamic Back Pressure Test. The test will follow the procedures given in *MO/TP 201.4, Dynamic Back Pressure Test*. The test will be conducted on all nozzles if the facility is new or has new dispensers. Existing facilities that do not have new dispensers will test a minimum of 25 percent of the nozzles. The back pressure reading is recorded at three specific flow rates of Nitrogen through the nozzle and system back to the storage tanks. At least one of the vapor ports is blocked open using a special cap that allows the Nitrogen to flow freely through the system and out the vapor port. If the back pressure reading is less than a predetermined value at each flow rate, the nozzle passes.

If all nozzles tested pass, the facility passes. The inspector will note that the facility passed the testing and the operating permit will be issued. The inspector will leave a copy of the inspection form with the facility and bring the test data sheets and the original inspection form back for the engineer to review and write the permit.

- **Enforcement**
  Generally, there is no enforcement with permit testing unless the facility refuses to test or the facility fails to do the testing within 30 days of completion of construction. An NOV will be issued in such cases and referred to the APCP for enforcement action.

Construction Inspections

- **Initial Contact**
  Construction permits are scheduled by the contractor to inspect the work being done under a construction permit before back filling. The contractor contacts the Vapor Recovery Engineer to schedule the inspection. The engineer has the option of authorizing the back filling without doing a site inspection. Construction inspections will be done at all new sites and any site where major piping changes have been made.

- **Inspection Procedures**

  The inspector will review the construction permit and pre-print the inspection form prior to going to the site. The inspector is looking at the piping type and size to determine if it meets standards. He is also watching for piping that has sags that can create traps in the vapor line and that the piping falls in elevation at a rate consistent with construction guidelines.

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The system is to be pressurized to five pounds per square inch to determine if there is a leak in the system.

The inspector will note any problems found on the inspection form and inform the contractor that a second construction inspection will be required before back filling. If there are no problems the inspector will note that it is okay to backfill on the form and note that the operating permit test must be done within 30 days of completion.

KANSAS CITY

Stage I Inspections

- **Initial Contact**
  Upon identifying themselves and their purpose, inspectors will begin the inspection by asking if the facility information on the inspection form is correct. If there are changes, the inspector will make them on the form. The inspector will request to see the facility's last four gasoline delivery records for each grade of product. If facility personnel can not find these records, the inspector will request they contact someone who knows where they are and locate the missing items while the inspector is doing the equipment inspection. The inspector will go back into the facility after the equipment inspection to check the paperwork. Regardless of whether paperwork is checked before or after the physical inspection of the equipment, the inspector will note on the inspection form if the delivery records were on site or not. Prior to the start of the actual inspection, the inspector will offer the facility representative the option of accompanying the inspector during the inspection.

- **Inspection Procedures**
  Before starting the actual inspection, the inspector will make a drawing of the facility showing street location(s), the location of the building, all of the storage tank fill ports, vapor ports, and vents, and the location of the gasoline dispensers. The gasoline fill ports will be identified by the letters A, B, C (tank farthest to left as seen from the building or closest to the street is labeled "A"). Fill ports for diesel and kerosene will be labeled by product. Vapor ports will be identified as VPA, VPB, VPC with the A, B, C matching the tank label associated with the vapor port in the drawing.

  The inspector will inspect each gasoline fill port, vapor port, and vent, looking for damaged equipment, unapproved components, product leaks, or indications of problems with the vapor system.

  As defects are found, the inspector will note them in the Inspector Comments Section of the inspection form using the description given in the Stage I Vapor Recovery Defects List and identifying them by the component label number in the drawing.

- **Enforcement**
  Upon completion of the inspection, the inspector will determine what enforcement action is to be taken based on the Stage I Defects List. If there were no defects or problems found, the inspector will indicate "NO DEFECTS" and RESOLVED" in the Inspector Comments Section of the form, sign and date the form and complete the final interview. If defects were found,

An NOV/NOEE Form will then be completed. The inspector will list all of the NOV defects found in one group and the NOEE defects in another.

If the defect is severe enough where a tank must be tagged out of service, the inspector will stick the tank or use the tank monitor system to determine the amount of product in the tank and record it on the inspection form. The totalizer numbers from each nozzle that draws product from that tank are to be recorded on the inspection and NOV form. The "DO NOT USE" tag will be attached to the Fill Port Cap of the tank being closed. The tag out of a storage tank means that the facility may sell the product in the tank, but may not receive deliveries to that tank because of the Stage I deficiency until repairs have been made and a Reinspection done.

If the facility has the equipment and someone to make the repairs on site, the inspector will allow them to make repairs to all or part of the defects found. Any repaired items will be marked as "Repaired on Site" on the Inspection and NOV/NOEE Forms. The inspector may decide to go on to the next facility and come back later in the day. If this is done, the inspector will have to use a hand written inspection form and follow the Reinspection Guidelines.

- **Reinspections**
  The Kansas City Rule has no provisions or guidelines for Reinspections. The time interval between the Inspection and Reinspection will be determined by agreement between KCRO and APCP.

  Facilities that have tagged out equipment will be Re-Inspected as soon as possible after notification of repair is received by the inspector.

  If a facility had defects, but no equipment was taken out of service, or had equipment out of service, but did not contact the inspector with notification of repairs being made, a Reinspection will be done after 15 days from the date of original inspection.

  The inspector will review unresolved inspections and NOV/NOEEs weekly to determine when Reinspections are to be done.

- **Initial Contact**
  Unless the facility had paperwork violations cited in the initial inspection, the inspector may begin the Reinspection upon arriving at the facility without announcing their presence.

- **Facility Drawing**
  The inspector will use the drawing made and the defects cited on the on the original inspection form to locate and re-inspect the equipment.

- **Reinspection Procedures**
  The inspector will look only at equipment cited during the original inspection to confirm that it has been repaired.

  If all defects cited during the original inspection have been correctly repaired, the inspector will note "All Defects Repaired" in the Inspector Findings Section of the Inspection Form and "Resolved" in the Inspector Action Section, sign and date the form and proceed to the exit interview.

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If some or all of the defects cited have not been repaired or improperly repaired, the inspector will immediately talk to a facility representative on site to determine why. Depending on the facility's explanation, the inspector will determine what to do. The original NOV/NOEE may be continued for a limited time period determined by the inspector or the equipment may be tagged out of service and a new NOV issued for "Failure to Repair" or "Improper Repair". These actions will be documented on the inspection form and the NOV form (if issued). If the NOV is issued, the "Tag out" procedures will follow the guidelines given in the Original Inspection Enforcement Procedures.

Paperwork violations cited in the original inspection that are not in compliance at the time of Reinspection will be issued a second NOV, which will be referred to APCP for Enforcement Action. The inspector will document the violation on the inspection form and the NOV. The original inspection and NOV will be resolved if all of the physical defects are repaired.

If a new defect is seen during the Reinspection, the inspector may note the defect on the inspection form and determine if new enforcement action is required or work with facility personnel to allow them to repair the problem without enforcement action.

- **Enforcement**
  Enforcement procedures for Reinspections will be the same as for the original inspections with some inspector discretion allowed depending on what the inspector is told and the documentation to support the facility claims.

  If a storage tank component was tagged out of service, the inspector will stick the tank and determine the amount of product in the tank and record all totalizer numbers from dispensers using that tank. The comparison of product sold between inspections from the totalizer numbers and the amount of product currently in the tank will indicate if a delivery was made. If a delivery was made, the inspector will cite the facility for an illegal delivery with an NOV. The inspector will obtain a copy of the delivery record to determine the delivery company and driver so that NOVs can be issued to them by Registered Mail for an improper delivery to a tagged storage tank. The violations will then be referred to APCP for enforcement action. If repairs were not made, the tank will be retagged.
  Paperwork and Illegal Delivery violations will require the issuing of a second NOV. The original NOV/NOEE will be resolved if all other defects are repaired or resolved. This will be noted on the Reinspection form.

Five-Year Stage I Test Inspections

- **Initial Contact**
  Letters will be sent to facilities reminding them that they need to schedule the Five-Year Stage I Leak Decay Test. The facility will contact their test contractor to do the testing. The contractor will schedule a date and time with the inspector.

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The inspector will review the facility file and make sure that they have an inspection form, the two test forms required, and any equipment needed prior to arriving at the site.

Upon arriving at the site, the inspector will meet with the contractor to begin the testing. Test procedures, a discussion of possible problems the contractor has noted, and what he has done to correct those problems prior to the arrival of the inspector will be included. The inspector will note these on the inspection form. The inspector will also confirm that the facility has not had a gasoline delivery within the last four hours, which is a requirement of the test procedures.

- **Facility Drawing**
  A complete drawing of the facility following the guidelines under Inspection Procedures will be done on the *Dynamic Back Pressure Test Data Sheet* prior to the start of the test.

- **Inspection Procedures**
  Upon completion of the initial interview, the contractor will close the dispensers to gasoline sales. The test procedures require that the facility be closed at least 15 minutes prior to the start of the Leak Decay Test. The contractor will then determine the amount of gasoline in the storage tanks using a stick and tank chart or the Automatic Tank Monitoring System. The contractor will then remove the P/V Valves from the vents for testing.

  The inspector will perform a complete inspection of the Stage I Vapor Recovery System as described in the Inspection guidelines above. In addition, the inspector will measure the lengths of the drop fill tubes.

  The contractor will check the P/V Valve test board for leaks and install the valve on the test board. The test will be done following the guidelines given in the December 4, 2002 P/V Valve Test (Interim Procedure) from APCP. The test data will be recorded using the *P/V Valve Test Oversight Form* by the contractor and/or the inspector. The passing P/V Valves will then be installed on the vents.

  The Leak Decay Test will then be done following the procedures given in *MO/TP- 201.3, 3A, 3B Static Pressure Test*. The tank information and the data gathered earlier with the number of gallons is to be entered on the *Static Pressure Test Data Sheet* to determine the amount of ullage in the storage tank(s). The ullage must be greater than 250 gallons, but can not exceed 25,000 gallons to conduct the test. The ullage amount and zero nozzles will be used to determine a final allowed pressure from a chart. The fill and vapor port caps are removed and Nitrogen is allowed to flow into the system at one of the vapor ports to a pressure of 2 inches of water column pressure. The Nitrogen line is disconnected from the test board and the pressure is recorded every minute for five minutes. If the final pressure is above the allowed final pressure, the facility passes. If the tank pressure falls below the allowed final pressure during the five minutes, the facility fails and the leak source has to be identified and repaired before starting again.

  If the problem can not be identified or repaired the test will be cancelled. The facility owner is required to find and fix the problem and

reschedule the testing. The inspector will note the problem on the inspection form.

If the facility passes the Leak Decay Test, the contractor will confirm that the storage tanks are manifolded together by opening the vapor ports on the other gasoline storage tanks while the inspector observes the pressure gauge for the expected pressure drop. If the tanks are not manifolded, the test must be done again testing each tank separately using the product volume of each tank and zero nozzles to determine the final pressure allowed for each tank.

- **Enforcement**
  Generally, there is no enforcement with the testing unless the facility refuses to test or the facility fails to respond when the notification letter is sent. An NOV will be issued in such cases and referred to the APCP for enforcement action.

- **Reinspections**
  There are usually no Reinspections associated with damaged equipment because the equipment must be in good condition or the facility fails and must be tested again.

Two Year P/V Valve Tests

- **Initial Contact**
  The inspection staff will send letters to facilities when it is time to perform the Two-Year Test. The owner or contractor will contact the inspection staff upon receipt of the letters or if they have to replace a P/V Valve before the end of the current two-year period.

  The inspection staff may authorize the contractor to perform the test without the oversight inspectors. A copy of the test results will be submitted to the inspector.

- **Inspection Procedures**
  The contractor will check the P/V Valve test board for leaks and install the valve on the test board. The test will be done following the guidelines given in the December 4, 2002 P/V Valve Test (Interim Procedure) from APCP. The test data will be recorded using the P/V Valve Test Oversight Form by the contractor and/or the inspector. The passing P/V Valves will then be installed on the vents.

- **Enforcement Procedures**
  The only enforcement will be for failure to do the test as the rule requires.

Post Inspection Procedures
The Final Interview will start as soon as the inspector completes the inspection and the related paperwork. The procedures are the same in St. Louis and Kansas City with variations depending on the type of inspection and what was found during the inspection.

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Regular Inspections
The inspector will give the facility representative an explanation of the facility diagram to make it easier to locate and repair any defects found. This will be followed by a detailed explanation of the defects found during the inspection. The inspector will then explain any enforcement action taken and the procedures for resolving the issues. In St. Louis, the inspector will leave a handout (NOV/NOEE Procedures Handout) that outlines the enforcement procedures, the Reinspection date, and the phone number to call for Reinspections or questions.

The inspector will ask the representative to sign the NOV/NOEE as proof that the facility received it. The facility copy of the inspection form and the NOV/NOEE will be given to the facility. The inspector will offer one last chance for questions before leaving.

If the facility had no defects, the inspector will thank them for maintaining their facility and encourage them to continue what they are doing for the air quality in St. Louis or Kansas City.

Test Inspections
The inspector will indicate that the facility passed and sign the inspection form. A copy of the inspection form can be left with the contractor. Unless the facility fails, there may be no need to discuss the test with the owner.

Office Procedure and Data Management
Upon returning to the office the inspector will follow office procedures for entering any updated information concerning the facility name and address, ownership, and any other information changes found during the initial interview into the facility database.

- Kansas City - The test information and date will be entered to update the facility compliance records with the test requirements. The inspector will complete a tracking slip and turn in the inspection paperwork as described by office policy.

- St. Louis - The inspector is to enter the day's inspection data into the Inspection Database before leaving for the field on the next workday. This data includes the inspection date, the number of the NOV/NOEE Form issued, the type of inspection (Inspection or Reinspection), the number of tagged nozzles, the number of defects found and a breakdown into categories of the number of defects in each category.

The inspector will note the facility code number, the county, and the Reinspection date on the NOV/NOEE form.

The inspector will complete a tracking slip for the inspection or Reinspection and paperclip it to the white copy of the inspection and NOV/NOEE form, if any, and place them in the "Completed Inspection" letter tray. If the issues have been resolved, the inspector will include the yellow copies in that packet. If the issues are not resolved the inspector will clip a new pre-printed inspection form to the yellow copies and place them in the inspector's slot in a vertical file next to the inspection tray.

The Unit Chief will review the inspection forms periodically during the month and confirm the accuracy of the data entry. The yellow copies of all resolved

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inspections will be clipped to the tracking slips for those inspections and forwarded to Data Entry to be entered in the PTS and NOV tracking systems. Data Entry will return the tracking slips to the Unit Chief and the inspection forms will be placed in the facility file. The Unit Chief will hold the white copies and tracking slips for unresolved inspections until they are resolved.

PERMIT PROCEDURES FOR ST. LOUIS

The St. Louis Regional Office has the responsibility to review and write all Vapor Recovery Operating and Construction Permits for all facilities in the Non-Attainment Area. The St. Louis City and St. Louis County Health Department Air Programs submit the applications and test results from facilities in their area to SLRO for review and processing. Facilities in Jefferson, Franklin, and St Charles Counties submit the permit applications to SLRO and all test oversight is done by SLRO personnel.

When the Unit Chief receives the applications, they are reviewed for completeness, entered into the PAMS Database, and forwarded to the Vapor Recovery Engineer to be written. The engineer reviews the paperwork for compliance and completeness then writes the permit, saving it as a file on a common drive. The application is then sent back to the Unit Chief who prints the permits and checks for accuracy. The permits are sent back to the engineer with a permit request memo for review and his signature or initials. The engineer then copies the entire packet and sends them to APCP for review and the Director's signature.

The signed permits are returned to SLRO. The city and county personnel are notified the permits are ready to pick up. Permits for SLRO facilities are sent with cover letters to the individual filing for the permit.

Inspection Reports to APCP

The APCP requires that inspections, tests, and permit paperwork related to Vapor Recovery be submitted on a regular basis. Enforcement issues such as improper Stage I Deliveries will be referred to APCP Enforcement as soon as possible following Department procedures.

- **Kansas City** - The Unit Chief will submit the white copies of the inspection forms and the test data sheets to APCP on a regular basis as agreed to by KCRO and APCP.

- **St. Louis** - All permit paperwork and test results are submitted to APCP as part of the Permit Process. The regular inspection and Reinspection will be submitted monthly.

The report includes the white copies of the resolved inspection, NOV/NOEE, Reinspection packets, a database generated list of all facilities inspected that month, and a summary sheet detailing the number of inspected facilities, the number of defects found, and a list of facilities that are being referred for enforcement.

Stage I Surveillance Procedures

Inspectors in the St. Louis and Kansas City areas are encouraged to watch for tanker deliveries of gasoline and stop anytime they observe a delivery being made. The inspectors will present their ID Card or business card to the

driver and identify themselves. If the driver is doing a correct delivery, the inspector will thank him/her and proceed on their way. If the delivery is not in compliance, the inspector will stop the delivery and advise the driver as to how the delivery should be made. If the driver cannot comply, the delivery is ended.

The inspector will take photographs of the improper delivery and get the driver's name, the company and the truck information. He will also check for the trailer sticker and the Method 27 test results.

An NOV can be issued to the driver on site or the inspector may choose to return to the office to write the NOV for the driver and an NOV to the delivery company to send to the company owner following Department policy. Copies of the NOVs, the cover letters, photographs, and an Enforcement Action Request will be sent to APCP for enforcement.

3.6.4 Forms and Checklists

Items listed below that do not appear as Web links are available through the Air Pollution Control Program.

Air Pollution Control Inspection procedures

- MACT Wood Furniture Manufacturing Checklist, 40 CFR 63, Subpart JJ
- MACT Perchloroethylene Dry Cleaner Checklist, 40 CFR 63, Subpart M
- MACT Chrome Plating Checklist, 40 CFR 63, Subpart N
- MACT Halogenated Degreaser Checklist, 40 CFR 63, Subpart T

Gasoline Vapor Recovery - forms and checklists

- Stage I Defects List (Kansas City)
- Vapor Recovery Defects List (St. Louis)
- Stage I Vapor Recovery Inspection Form (Kansas City)[MO 780-1784 (6-02)]
- Vapor Recovery System Inspection Form (St. Louis)[MO 780-1566 (4-03)]
- Notice of Violation/Excess Emissions Form [MO 780-1641 (12-03)]
- NOV/NOEE Procedures Handout (St. Louis)
- Enforcement Tag (St. Louis)
- Gasoline Delivery Truck Surveillance form

Available from APCP:

- P/V Valve Bench Test Oversight Form
- Static Pressure Test Data Sheet
- Dynamic Back Pressure Test Data Sheet (St. Louis)

Available from Regional Offices:

- Paperwork Required Guide Sheet (St. Louis)

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