

# **Memorandum of Understanding**

**Missouri Department of  
Health and Senior Services**

**Missouri Department of  
Natural Resources**

**PROPOSED CHANGES TO DNR/DHSS MOU**  
**09/26/03**  
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## **DEPARTMENTAL MISSION STATEMENTS**

The mission of the Department of Natural Resources is to preserve, protect, restore and enhance Missouri's natural, cultural and energy resources and to inspire their enjoyment and responsible use for present and future generations.

The Department of Health and Senior Services enhances quality of life for all Missourians by protecting and promoting the community's health and well being of citizen's of all ages.

### **PREAMBLE**

This document defines the activities that the Missouri Department of Health and Senior Services (DHSS) and the Missouri Department of Natural Resources (DNR) conduct in protecting the public health and the environment from contamination due to physical, chemical, radiological, and biological agents.

The main purpose of this agreement is to provide a common understanding of the responsibilities of each agency concerning the investigation, assessment, and control of physical, chemical, radiological, and biological agents in the environment. In general, the DHSS is responsible for risk assessment, which is the process used to quantitatively or qualitatively estimate and characterize the probability of adverse effects occurring as a result of physical, chemical, radiological, or biological contamination. In general, the DNR is responsible for risk management, which is the weighing and selecting of options and implementing controls to assure an appropriate level of protection from risks posed by physical, chemical, radiological, or biological contamination. Risk assessment is one of many tools used in the risk management process. Because of specific legislation or funding issues, there are exceptions to this general division of responsibilities. These exceptions are noted in the appropriate sections of the MOU.

Nothing in this agreement shall be construed to restrict in any way either department's authorities and/or responsibilities under the federal and state statutes with which they are charged.

## **SECTION 1**

### **GENERAL**

#### **A. AGENCY ROLES**

Missouri Department of Health and Senior Services (DHSS) -- protects the public through identification and prevention of disease; assesses risk from exposures to toxic and radioactive materials; investigates, prevents, and remediates on-site sewage disposal system problems; responds to radiological accidents and incidents; and enforces state and federal statutes on food protection, lodging, infectious waste from hospitals, on-site sewage, and radiological health.

Missouri Department of Natural Resources (DNR) -- protects the public health and the environment through technical assistance; education of the public; and enforcement of state and federal statutes on air, drinking water, wastewater, hazardous waste, solid waste; and emergency response to releases of substances that are hazardous to the public or the environment.

The DNR and DHSS encourage and endorse the coordination between each department and all local agencies involved in environmental health or environmental protection activities.

The DHSS maintains contracts with all local health agencies within the state of Missouri and provides these agencies with advice, assistance, and consultation. The DNR maintains air pollution control contracts with St. Louis County Department of Health and Hospitals and the Springfield-Greene County Health Department, as well as the City of St. Louis Division of Public Safety and Kansas City Health Department.

#### **B. PARTIES**

This agreement is entered into by the DNR Director and the DHSS Director. References to the directors of these two departments may be construed to mean their appropriate designees.

#### **C. REVIEW COMMITTEE**

This agreement will be reviewed each year by the DNR and DHSS directors. The directors will each appoint three individuals to meet at least once a year to review and resolve problems associated with the implementation of this agreement.

**D. TERMS**

This agreement shall remain in effect indefinitely from the date of execution. It may be terminated by either party with at least sixty (60) days written notice. This agreement may be modified upon the initiative of either party. Any modifications must be in writing and be signed by the DNR and DHSS directors.

## SECTION 2

### COORDINATION

#### A. NOTIFICATION

Both departments agree to notify the other as soon as possible after receipt of confirmed information pertaining to potential contamination which may affect the public health or the environment or as otherwise covered in this MOU. Notification will be immediate regarding emergency events.

Both departments agree to notify the other immediately upon receipt of information pertaining to confirmed or highly probable illnesses suspected to be related to an environmental source.

After normal business hours, the appropriate single point of contact for notification at DNR shall be the Environmental Services Program's (ESP) Environmental Emergency Response (EER) twenty-four hour telephone hotline at (573) 634-2436 (unless specifically covered in other provisions of this MOU). The EER duty officer will be responsible for notifying DNR program and management staff as appropriate.

#### B. RELEASE OF PUBLIC INFORMATION

When possible, both departments agree to coordinate news releases concerning physical, chemical, radiological, or biological agents in the environment which have a potential effect on public health or require regulatory action. When both departments have roles in a situation, joint releases may be made. DNR will be the lead agency for public statements or news releases about environmental regulatory actions, emergency responses other than radiation emergencies, and risk management decisions. DHSS will be the lead agency for statements or releases about human toxicity of physical, chemical, radiological, or biological agents; risk assessment; radiological emergency response; and epidemiological studies of environmental contamination or environmentally-related disease. More specific procedures listed elsewhere in this document may apply to specific incidents.

#### C. EMERGENCY RESPONSE

The DNR Environmental Services Program (ESP) is the lead agency for hazardous substance emergencies, as defined in Section 260.500 – 550, RSMo.

The DHSS Division of Environmental Health and Communicable Disease Prevention (EHCDP), Section for Environmental Public Health (SEPH) is the lead agency for radiological emergencies when there is a risk to public health or safety. If there is no risk

to public health or safety but a threat to the environment, DNR ALPD will assume the lead role.

The two departments agree to provide each other their formal plans for dealing with emergencies and to keep those up-to-date. Each will update the other monthly with the names and home phone numbers for their designated emergency response personnel.

**D. EPIDEMIOLOGICAL STUDIES, TOXICOLOGICAL EVALUATIONS, RISK ASSESSMENTS, AND OUTBREAK INVESTIGATIONS**

The SEPH is the lead agency for assessing the human toxicity and risk of physical, chemical, radiological, and biological agents in the environment and for investigating communicable disease outbreaks suspected to be related to environmental causes.

SEPH will conduct risk/cleanup document reviews, determine safe residual site contamination levels, produce risk determinations for environmentally contaminated sites, and create Human Health Baseline Risk Assessments, Residual Risk Assessments, Preliminary Remedial Goals, or review such documents based on Environmental Protection Agency (EPA) Risk Assessment Guidance for Superfund (RAGS) or other methodologies as agreed upon by DNR and DHSS. This is subject to prior funding mechanisms being set up between DNR and EPA to redirect funding to DHSS for that purpose. These activities will be completed within a time frame agreed upon between the DNR personnel requesting the risk assessment and the SEPH personnel conducting the risk assessment.

SEPH will advise DNR about changes in safe cleanup level determinations based on changes in toxicological information.

SEPH will provide DNR with assessments of the toxicity of environmental agents upon request, as staffing (budget) and expertise permit.

Both agencies will be a member of any advisory group set up by either agency to review/modify any cleanup regulations/guidelines in order to assume protection of human health.

DHSS will conduct epidemiological studies of environmental contamination or reports of non-communicable environmentally related disease when DHSS considers that activity necessary to protect public health. DHSS will notify DNR of the results prior to release to the public.

DHSS will lead epidemiological and environmental investigations of suspected outbreaks of communicable diseases. If a suspected environmental source of an outbreak is regulated by DNR, DNR will conduct the environmental portion of the investigation with assistance and in coordination with the local health authority and/or staff from DHSS.

If the outbreak involves a public water system, DNR will conduct the inspection and evaluate the water system, coordinating with DHSS as appropriate.

For the purpose of fulfilling air permit requirements, the DNR and the Air Pollution Control Program (APCP) will determine the Acceptable Ambient Level (AAL) following the protocol outlined in Section 8. SEPH will assist the APCP in its determination of the AAL. Prior to the release of the AAL, SEPH will have 30 days to review and comment on the recommended AAL.

#### **E. LABORATORY SERVICES**

Each department may request that the other's laboratory analyze environmental samples as budgets and work schedules permit. Special requests for DNR laboratory support should be in writing from the SEPH Director to the Environmental Services Program (ESP). Any DHSS laboratory or local health department employee, who wants to have samples analyzed by DNR/ESP, is to request that through SEPH. Special requests for DHSS laboratory support should be in writing from the appropriate DNR program director, or the Air and Land Protection Division (ALPD) or Water Protection and Soil Conservation Division (WPSCD) director to the Director of the State Public Health Laboratory (SPHL).

The provision of laboratory services by DHSS for drinking water microbiological testing is covered under an annual work plan.

#### **F. SHARING OF DRINKING WATER SUPPLY ANALYSES**

Results of analysis of drinking water samples not specifically covered by other provisions of this MOU will be made available to DNR/DHSS by the originating agency on request. DNR Environmental Services Program (ESP) Environmental Emergency Response (EER) twenty-four hour hotline is to be contacted at (573) 634-2436 immediately by DNR or DHSS staff when contamination potentially related to a release, spill or other emergency situation is found in public or private drinking water supplies. DNR/EER will contact other DNR programs/regions and DHSS for appropriate follow-up.

#### **G. IMPLEMENTATION GUIDELINES FOR PROGRAMMATIC AND/OR POLICY CHANGE**

Pursuant to Executive Order 02-05, both departments are required to provide an opportunity for comment on proposed rules that significantly impacts the mission of the other agency at least 30 days before a proposed regulation is filed with the Secretary of State. These comments are coordinated through the members of the Executive Rulemaking Review Team established by the Executive Order. In addition, both departments agree to work together to review proposed policies and program guidelines that may have an impact on the operations of the other department prior to dissemination to the general public.

An opportunity for review and comment will be provided as a courtesy to the other department. These are not special requests, but should be evaluated in terms of each agency's ability to conduct these activities within existing resources.

Both agencies agree to meet at least annually to review the overall interactions of cooperative activities.

#### **H. CANCER INQUIRY COMMITTEE REPRESENTATION**

DNR will provide a representative to the DHSS Division of Chronic Disease Prevention and Health Promotion's Cancer Inquiry Committee. This representative will attend meetings of the committee to provide DNR's perspective regarding environmental concerns expressed to the committee by the citizens in their cancer inquiries. This representative will be alerted any time the committee determines a cancer excess may be related to environmental contamination so the representative can communicate that information to other DNR personnel for possible follow-up.

#### **I. ANNUAL WORK PLANNING MEETING**

DNR, EHCDP, and other DHSS programs represented in this MOU will meet at least annually to advise each other about their projected annual work plans and/or strategic objectives so each agency is aware of activities that may impact them in the upcoming year. If either agency knows of specific activities/products they plan to request from the other agency for that year, this meeting will be the appropriate place to begin discussions regarding those needs. This meeting, or associated meetings involving mostly program level staff, should be used to discuss any coordination/cooperation issues between the agencies.

#### **J. FUNDING**

The departments agree that the cost of all services, personnel, equipment, material, or information shall be through one of the existing funding sources (e.g., Hazardous Waste Remedial Fund (HWRF), cooperative agreements with EPA, DNR-DHSS work plan, etc.) Funding for services not covered by an existing source will be negotiated at the time the service is requested.

## SECTION 3

### WATER POLLUTION AND SEWAGE TREATMENT

#### A. BACKGROUND

This chapter covers DHSS and DNR activities in water pollution control and on-site sewage. The specific units covered in this chapter are for DHSS: Division of Environmental Health and Communicable Disease Prevention (DEHCDP), Section for Environmental Public Health (SEPH). For DNR the units are: Water Protection and Soil Conservation Division (WPSCD), WPSCD's Water Pollution Control Program (WPCP), Environmental Services Program (ESP), ESP's Environmental Emergency Response Section (EER), and DNR regional offices.

DHSS and DNR agree to work jointly to resolve administrative and technical issues where both agencies' statutory responsibilities are impacted. They also agree to jointly educate financial agencies, homebuilders associations, realtor groups, and other appropriate organizations of the need for good minimum building standards and prior approval of on-site sewage systems.

DHSS and DNR agree that SEPH and WPCP will meet quarterly to insure that the required coordination is occurring.

DHSS/SEPH and DNR/WPCP will cooperate in the competency determinations and requirements of individuals conducting on-site soil morphologies and subdivision reviews. They will cooperate to ensure mutual compatibility in programs and work together with industry, private licensing boards, and universities in formulating policies.

DHSS/SEPH and DNR/WPCP under 701.033, will jointly pursue the trial or experimental use of innovative systems for on-site sewage disposal, in cooperation with the staff of the Missouri Clean Water Commission. SEPH and WPCP will also cooperate in determining the most sensible, cost effective, health and environment protective wastewater treatment solutions for DHSS regulated facilities under 3000 gpd flow.

Appropriate DHSS/SEPH and DNR/WPCP programmatic and Regional staffs will develop a standard operating procedure for jointly coordinating enforcement activities related to wastewater and water violations including closure of regulated facilities. These procedures will include an exchange of policy manuals related to these joint activities and will establish mechanisms, personnel, and the sharing of paperwork necessary for effectively and systematically resolving these violations. The development of this joint SOP (standard operating procedure) will begin within three (3) months and be completed within twelve months of the date of this MOU.

## **B. GENERAL AUTHORITIES**

### **1. DHSS GENERAL AUTHORITIES**

The Missouri On-Site Sewage Law, Sections 701.025-701.059 RSMo, contains the authorities administered by the SEPH.

Subsection 701.033.-1.(1) directs DHSS to promulgate rules to carry out provisions of this law. The following rules have been established:

19 CSR 20-3.060 Minimum Construction Standards for On-Site Sewage Disposal Systems;

19 CSR 20-3.070 Fees Charged by the Department of Health for Inspection of Existing On-Site Sewage Disposal System Requested by a Lending Institution; and

19 CSR 20-3.080 Description of Persons Qualified to Perform Percolation Tests and Soils Morphology Examinations in Determining Soil Properties for On-Site Sewage Disposal Systems.

Section 701.031 requires property owners with buildings where people live, work, or assemble to provide sanitary disposal of all domestic sewage by either an onsite sewage system in accordance with this law or in accordance with Chapter 644 administered by WPCP. A permit is required for installation or major repair of an on-site sewage system. Owners of single-family residence lots of three acres or greater in size and owners of over ten acres with at least ten acres for each single family residence are exempt (unless adjacent to a lake operated by the Corps of Engineers or public utility.) Conditions for exemption are: the system must be located in excess of ten feet from the property lines; no effluent may enter adjoining property; no contamination of surface or ground waters; no nuisance created, and no single-family residence on-site system located within three hundred sixty feet of any other for the ten acre exemption.

SEPH will have jurisdictional responsibility for single-family residences with flows of domestic sewage three thousand-gallon (3,000 gal.) per day or less including single-family residence lagoons. SEPH will also have responsibility for other sources of domestic sewage flows three thousand gallons (3,000 gal.) per day or less including multifamily, commercial and restaurants, which discharge into subsurface soil absorption systems, or holding tanks.

As directed in 19 CSR 20-3.060 Minimum Construction Standards for On-Site Sewage Disposal, Section (1)(B), SEPH will direct all commercial, industrial facilities and developers of subdivisions to contact the WPCP or DNR regional offices concerning compliance with the Missouri Clean Water Law and regulations before applying for any approvals or permits under the current DHSS rule. The intent is to route all regulated

facilities and subdivisions through WPCP or DNR regional offices to aid in determining the method of wastewater disposal. Communication between SEPH and WPCP is essential.

Calculations of gallons per day (GPD) for on-site wastewater disposal systems will be made according to DHSS rule 19 CSR 20-3.060 Minimum Construction Standards for On-Site Sewage Disposal to determine jurisdictional responsibility.

Domestic sewage is defined in 701.025 as: "...human excreta and wastewater, including bath and toilet waste, residential laundry waste, residential kitchen waste and other similar waste from household or establishment appurtenances..."

Existing on-site sewage systems in operation prior to January 1, 1996, are not inspected unless a complaint has been submitted and validated. After investigation, if a notice of violation is issued, a permit is required for a major repair, i.e. any exemption is lost.

## **2. COOPERATIVE ACTIVITIES OF DHSS/SEPH**

Coordination with DNR/WPCP is essential. SEPH staff will honor requests to review applicable grants for DNR Section 319 grants when onsite sewage systems are involved.

Because of potential conflict with Missouri Clean Water Law Chapter 644 Section 644.051.1 (1) & (2) which states: "It is unlawful for any persons: (1) To cause pollution of any waters of the state or to place or cause or permit to be placed any water contaminant in a location where it is reasonably certain to cause pollution of any waters of the state. (2) To discharge any water contaminants into waters of the state which will reduce the quality of such waters below the standards established by the commission." DHSS will amend the portions of their regulation that allowed discharge from certain systems. This is to provide better assurance the Missouri Clean Water Law will not be violated.

SEPH may allow variances according to DHSS regulations for on-site systems or lots in existence prior to January 1, 1996 (19 CSR 20-3.060 (6)(L)).

## **3. COOPERATIVE ACTIVITIES OF DNR/WPCP**

WPCP has developed design criteria and standards for small sewage works (10 CSR 20-8.020) and disposal of wastewater in residential housing developments (10 CSR 20-6.030).

WPCP or DNR regional offices will review and approve sewage disposal plans for subdivisions, lodging, food service, and retail food establishments that require a construction permit under 10 CSR 20-6.010.

WPCP and the DNR Regional Offices will issue permits to construct and operate sewage treatment facilities, when required, for lodging, food service, and retail food establishments. WPCP and DNR regional offices agree to provide copies of the permits to SEPH.

WPCP will have jurisdictional responsibility for all wastes not defined as domestic, along with other sources of domestic flows three thousand gallons (3,000 gals.) per day or less, including multi-family, commercial and restaurants that do not discharge into a subsurface soil absorption system (e.g. lagoons).

WPCP will have jurisdictional responsibility for all flows greater than three thousand gallons (>3,000 gals.) per day and is responsible for approval for developments with seven (7) or more lots (or residences).

DNR regulations define a residential housing development (subdivision) in 10 CSR 20-6.030 (1)(A) (6) as: "Land which is divided or proposed to be divided into three (3) or more lots, whether contiguous or not, for the purpose of sale or lease as part of a common promotional plan." DHSS statute defines a subdivision in 701.025 as: "...any land which is divided or proposed to be divided by a common owner or owners into three or more lots or parcels..."

10 CSR 20-6.030 sets forth requirements for developers of residential housing to determine the method of wastewater disposal. The rule applies to all new residential housing developments and existing developments that were required to comply with previous regulations, but have not received department approval. The DNR will use a geohydrologic evaluation along with a thorough, systematic investigation of the soil properties and landscapes in a proposed development to determine if the requirements of this rule are satisfied. The minimum lot size for developments that can utilize on-site wastewater disposal systems will be determined by the larger of the values calculated from the geohydrologic evaluation or the soils report. Approval under the rule does not guarantee that the DHSS will approve each lot in the residential housing development for a soil absorption system. The DNR regulates the developer of the subdivision, not the individual lot owner. The DNR will not review or permit installation of on-site systems for an individual residence in any subdivision.

WPCP will provide copies of all residential housing developments-approvals to the SEPH central office and/or local administrative authority.

The Missouri Clean Water Law Chapter 644 Section 644.051 states: "It shall be unlawful for any person to build, alter, replace, operate, use or maintain any water contaminant or point source in this state that is subject to the standards, rules or regulations promulgated pursuant to the provisions of section 644.006 to 644.141 unless such person holds a permit from the commission..."

Exceptions to obtaining permits from the DNR are as follows:

a) A system that receives three thousand gallons per day (3,000 gpd) or less of domestic sewage and discharges into a soil absorption system.

b) A lagoon that serves a single-family residence. Such may include an in-house business such as a day care licensed for up to 10 children or a beauty shop, provided the additional wastewater is domestic and fifty percent (50%) or less of the total design flow. (Please note that the intent of DNR and DHSS rules are to keep the wastewater on the property).

c) Certain “no-discharge” systems utilizing sealed lagoons with storage and disposal by land application. These systems may not require permits, however they are still subject to DNR regulations, review and approval to insure they are “no-discharge”. WPCP and DNR regional offices agree to provide copies of letters of exemption for all new non-discharging wastewater facilities to SEPH.

All other surface discharge systems whether or not the design flow is less than three thousand gallons (3,000 gals.) per day must have a construction and operating permit from WPCP or DNR regional offices.

Commercial facilities with flows less than three thousand (3,000 gals.) per day that handle only domestic sewage do not need to be routed through WPCP if the wastewater will be disposed in a subsurface soil absorption system provided the system complies with DHSS regulations. If an applicant proposes to discharge into a subsurface soil absorption system that does not comply with DHSS regulations or otherwise would surface or discharge, they should be directed to the appropriate DNR regional office to obtain the appropriate permits.

Residential, food service establishments, lodging establishments and office buildings are all considered to produce domestic type sewage.

Most manufacturing plants and places where petroleum products and solvents are routinely handled, e.g., service stations, are considered potential sources of industrial waste and should be routed through DNR for a determination of permit authority.

## **C. NON-PERMITTED DISCHARGES, SPILLS OR THREATENED SPILLS**

### **1. Statutory Responsibilities**

SEPH has the responsibility to evaluate the health risk of non-permitted discharges, spills, or threatened spills and to issue health advisories, where appropriate. This responsibility comes from 192.020 RSMo, which requires DHSS to safeguard the health of Missourians by investigating and preventing disease.

WPCP has a statutory responsibility under the Missouri Clean Water Act (644 RSMo) to respond, investigate, and assure that appropriate remediation is done of non-permitted discharges, spills, or threatened spills into the waters of Missouri. For discharges and

spills of hazardous substances, EER has similar responsibilities (260.500-260.550 RSMo).

## **2. COOPERATIVE ACTIVITIES OF DHSS, SEPH**

SEPH agrees to notify WPC and/or the DNR Regional Office within one working day of becoming aware of situations, which appear to be in violation of the Clean Water Act.

SEPH agrees to notify EER's twenty-four hour telephone hotline at (573) 634-2436 when they become aware of situations, which appear to be in violation after hours, on weekends or holidays.

SEPH will perform risk assessments, provide toxicological evaluations, and conduct epidemiological studies. Appropriate field support will be provided when there is actual or potential human exposure.

SEPH will advise appropriate local health departments of non-permitted discharges, spills, and threatened spills within one working day of becoming aware of them.

SEPH also agrees that, in cooperation with DNR, it will issue health advisories and public information documents when the situation affects the public health.

## **3. COOPERATIVE ACTIVITIES OF DNR, WPCP, DNR Regional Offices, and ESP**

Besides enforcement of its statutory responsibilities, DNR agrees that regional offices and/or the EER Duty Officer will notify SEPH of non-permitted discharges at commercial lodging, food services and retail food establishments; spills that have the potential to effect human health; and threatened spills that have the potential to effect human health immediately upon becoming aware of the situation.

DNR agrees to consult with SEPH when there is actual or potential human exposure and to participate in the issuance of health advisories and other public health information.

When there is actual or potential human exposure, ESP will provide SEPH with copies of the results of laboratory reports.

## SECTION 4

### DRINKING WATER

#### A. DNR and DHSS GENERAL AUTHORITY

DNR Public Drinking Water Program (PDWP) has the responsibility to enforce the Missouri Safe Drinking Water Act (SDWA) (640.100-640.140 RSMo) and associated rules (10 CSR 60; 1-16),

DHSS under 640.100.10 RSMo 1992, DHSS/State Public Health Laboratory Services and DNR/Environmental Services Program (ESP) are to provide the analyses required under the SDWA upon request.

DHSS statutes and regulations require water supplies in lodging (315.024 RSMo), food service (19 CSR 20-1.010), and retail food establishments (19 CSR 20-1.202) to be in compliance with the SDWA.

DHSS has the responsibility to investigate and prevent disease under 192.020 RSMo including the inspection and sampling of private wells upon request, and the issuance of boil orders when necessary to safeguard the health of the people of Missouri.

#### B. DNR/PDWP ROLES, RESPONSIBILITIES, AND INTERACTION POINTS

DNR/PDWP is the agency responsible for issuing boil water orders or other orders limiting the use of potable water affecting public water supplies. Section 192.020 RSMo authorizes the DHSS to issue orders to safeguard the health of the people of Missouri. In situations where a boil water order is appropriate and where the water supply is not a public water system (as defined by the DNR), DHSS is responsible for issuing a boil order or other order affecting use of potable water. Each agency has its own boil order policy and coordinates so that the policies do not differ significantly. DNR and DHSS procedures can be found in Appendix A.

PDWP will notify the DHSS Section for Environmental Public Health (SEPH) Administrator and Unit Chiefs, before release of "boil orders" and information releases on contamination of public supplies, which do not result from routine microbiological samples. For boil orders required under 10 CSR 60-4.020 (7)(B) and 8.010(1)(A)3, DNR regional offices will notify the SEPH Administrator and Unit Chiefs at the time the boil water notice is issued. PDWP will make available to SEPH data on water supplies in noncompliance of microbiological and chemical standard of the SDWA.

The cooperative activities of the DHSS Oral Health Program (OHP) and PDWP concerning fluoridation of public water supplies were formerly covered in a contract between DHSS and DNR. That contract was allowed to expire and was not renewed. Water systems that desire to begin adding fluoride are required to submit engineering

plans and specifications to PDWP for review and approval. PDWP staff inspects fluoridation installations as part of their routine operation and maintenance inspections of public water systems and may conduct final inspections of fluoridation installations in accordance with Regional Office Work Plan guidelines.

DNR/PDWP and the regional offices will require, review, and approve the plans and specifications for some transient non-community systems such as state and federal facilities, including those of the Corps of Engineers; Department of Natural Resources, Conservation, and Highway & Transportation; and non-transient non-community supplies such as schools and industry. These plans and specifications must be prepared by a professional engineer. Monitoring for the parameters required under the SDWA will be done for those systems by the DNR.

If DNR becomes aware of a potential water-borne disease outbreak, they will notify the Administrator of the DHSS Section for Communicable Disease Control and the Administrator of SEPH. Notification will come from PDWP during regular business hours. After hours, notification will come from EER.

For other transient non-community systems, such as lodging, food service establishments, retail food stores, campgrounds, recreational areas, marinas and airports, the DNR Geologic Survey and Resource Assessment Division (GSRAD) will furnish the SEPH with copies of registration for wells. PDWP and the regional offices will provide prospective owners and SEPH with technical consultation on the construction, operation, siting, and grouting of other transient non-community systems as staff time permits.

DNR is responsible for providing chemical analyses of public water supplies. St. Louis County Department of Community Health and Medical Care Laboratory is designated by DNR as the "Primacy" lab for radionuclide analyses of public water systems.

DNR's regional office will contact the SEPH Administrator and Unit Chiefs whenever a boil order or limited use order is issued or lifted. An email to the "Boil Order Notification Group" will be the normal means of notification, although direct contact will be made when appropriate.

DNR will contact the water supply officials and affected schools, when in session, and arrange for notice to the news media.

### **C. DHSS ROLES, RESPONSIBILITIES, AND INTERACTION POINTS**

DHSS is responsible for providing microbiological analyses of public water supplies.

DHSS will normally provide chemical and microbiological analysis for private water supplies. DNR's Environmental Services Program laboratory may conduct chemical analysis of samples from private water supplies when necessary to support the activities of other environmental programs in DNR.

SEPH will notify PDWP and the appropriate DNR regional offices of health inquiries and investigations affecting public water systems.

The SEPH will notify PDWP and the appropriate regional office within one (1) working day of all unsafe water samples from facilities on public water systems and when cross-connections with other water systems are observed.

DHSS assures that no lodging facility will be licensed and no food service or retail food establishment will be allowed to operate if they have an unsafe water supply.

Upon notification of a boil order from DNR Regional Office, SEPH will notify the local health department if a direct threat to health caused the boil order to be issued. The local health department or, in its absence, the SEPH shall contact those business concerns that are provided service by the affected water system if their continued operation might pose a risk to the public health if the boil order is not complied with.

If DHSS becomes aware of a disease outbreak related to a drinking water supply, they agree to notify the PDWP and appropriate Regional Office during normal business hours or the EER emergency response hot-line (573- 634-2436) outside normal business hours.

#### **D. COOPERATIVE ACTIVITIES**

When necessary, DHSS and DNR staff will meet and share information on new technology related to drinking water purification and filtration and provide informational releases to the industry and the public at large on accepted methods, practices, and technology for the purification of drinking water. This is needed to ensure a consistent message from both agencies regarding these technologies.

Appropriate DHSS, SEPH and DNR programmatic and Regional staffs will develop a standard operating procedure for jointly coordinating enforcement activities related to wastewater and water violations including closure of regulated facilities. These procedures will include an exchange of policy manuals related to these joint activities and will establish timetables, mechanisms, personnel, and the sharing of paperwork necessary for effectively and systematically resolving these violations. Work on this joint SOP will begin within 3 months with a final SOP developed within 12 months of the date of this MOU.

DHSS and DNR agree to share information on methods for conducting vulnerability assessments on public and private water supplies. These assessments are related to potential intentional contamination.

## SECTION 5

### SOLID AND INFECTIOUS WASTE MANAGEMENT PROGRAM

#### A. BACKGROUND

This chapter covers DHSS and DNR activities in solid and infectious waste management. Specific units covered in this agreement are for DHSS: Division of Senior Services and Regulation (SSR) and Section for Environmental Public Health (SEPH). For DNR the units are: Air Pollution Control Program (APCP), Solid Waste Management Program (SWMP), Hazardous Water Management Program (HWMP), and DNR Regional Offices.

#### B. SOLID WASTE

##### 1. Statutory Responsibilities

DHSS – Authority for regulating solid waste storage is the responsibility of SEPH under Chapters 315 and 196 RSMo relating to lodging and food handling establishments.

DNR – Regulation of the disposal and treatment of solid waste is the responsibility of SWMP and/or DNR regional offices and is regulated by 260.200-260.345, RSMo and associated DNR rules.

##### 2. Cooperative Activities of DHSS

DHSS agrees that SEPH will refer possible violations of solid waste statutes and rules to SWMP and the appropriate DNR regional office. These staff will also provide consultation to SWMP or DNR regional offices on solid waste problems related to insect and rodent control.

SEPH will conduct investigations of actual or suspected health effects possibly related to solid waste processing and disposal upon DNR's request as soon as possible.

##### 3. Cooperative Activities of DNR

DNR agrees that SWMP and the DNR regional offices will provide SEPH with technical advice on solid waste management upon request and as staffing permits. They will also investigate possible violations referred to them by DHSS staff, as staffing permits.

## **C. INFECTIOUS WASTE**

### **1. Statutory Responsibilities**

DHSS/SSR is responsible for regulating infectious waste management in hospitals (260.203 RSMo and 19 CSR 30-20.021, -20.070, -22.030, and -24.040).

SWMP is responsible for regulating the management of infectious waste except for on-site management by hospitals.

SSR and SWMP are jointly responsible for reviewing requests by hospitals for approval to accept infectious waste from small quantity generators (260.203 RSMo, 10 CSR 80-2.010 (46) and (47), and 10 CSR 80-7.010). APCP is responsible for regulating the emissions from incineration of infectious waste (643 RSMo).

### **2. Cooperative Activities of DHSS**

DHSS agrees that SEPH will provide SWMP with technical advice on possible health effects of infectious waste. SSR will coordinate infectious waste activities closely with SWMP. SSR agrees to notify SWMP or APCP of possible violations of DNR statutes and rules. SSR also agrees to investigate all complaints involving management of infectious waste from a hospital.

SSR will coordinate the review of requests by hospitals for approval to treat infectious waste from small quantity generators and other Missouri hospitals with the SWMP. SSR will notify SWMP within ten (10) days of receipt of a hospital's request for approval to accept infectious waste from off-site. If SWMP has not received the hospital's request within (10) days, SWMP will send written notification to the hospital that the request to accept such waste for treatment must be hand delivered or sent by certified mail to both SSR and SWMP.

Review of the submitted information will result either in an approval or denial of the request. If the information submitted does not comply with DHSS requirements, SSR will deny the hospital's request to accept infectious waste from off-site. If the information submitted complies with DHSS requirements, SSR will approve the hospital's request to accept infectious waste from off-site, contingent upon DNR's concurrence.

As required by 260.203.9 RSMo, SSR will respond in writing to each request by a hospital for approval to accept off-site infectious waste with either an approval or a denial within ninety days of receipt of such request. SSR will send SWMP copies of correspondence with hospitals regarding the approval process.

SSR will forward all inquiries concerning incineration of infectious waste to APCP and provide a list of medical waste incinerators to APCP for permit determination.

DHSS/SSR has the following responsibilities in approving or denying requests from hospitals to accept off-site infectious waste for treatment:

- approval of storage, processing, record keeping, and training requirements;
- approval of treatment method, including equipment specifications and operating procedures as required in DHSS' regulations;
- approval of the total quantity of infectious waste to be accepted at a hospital off-site;
- approval of requests to add other small quantity generators and Missouri hospitals to an existing approval when there is question about compliance with DHSS' off-site quantity restrictions.

At the request of DNR, SSR will arrange for site visits by DNR staff of hospitals that are not permitted infectious waste processing facilities.

### **3. Cooperative Activities of DNR**

DNR agrees that SWMP and APCP will provide SSR with technical assistance on infectious waste treatment and disposal.

SWMP and APCP will coordinate their infectious waste management activities closely with SSR, especially the promulgation of solid waste and air pollution rules on infectious waste treatment, disposal, and air emission requirements. SWMP will notify SSR within one week of any complaint involving management of infectious waste in a hospital. APCP agrees to notify SSR of any requests from hospitals to build and/or operate an infectious waste incinerator within ten (10) days of the application.

SWMP will coordinate the review of requests by hospitals for approval to treat infectious waste from small quantity generators and other Missouri hospitals with SSR. SWMP will notify SSR of receipt of a hospital's request within (10) days of receipt of a hospital's request for approval to accept infectious waste from off-site. If SSR has not received the hospital's request within ten (10) days, SSR will send written notification to the hospital that the request to accept such waste for treatment must be hand delivered or sent by certified mail to both SWMP and SSR.

Review of the submitted information will result either in an approval or denial of the request. If the information submitted does not comply with DNR's requirements, SWMP will deny the hospital's request to accept infectious waste from off-site. If the information submitted complies with the DNR's requirements, SWMP will approve the hospital's request to accept infectious waste from off-site, contingent upon DHSS concurrence.

As required by 260.203.9 RSMo, SWMP will respond in writing to each request by a hospital for approval to accept off-site infectious waste with either an approval or a denial within ninety days of receipt of such request. SWMP will send SSR copies of all correspondence with hospitals regarding the approval process.

The DNR/SWMP has the following responsibilities in approving or denying requests from hospitals to accept off-site infectious waste for treatment:

- approval of packaging, tracking and transportation requirements for infectious waste taken to a hospital for treatment;
- approval of the disposal requirements for treated infectious waste, including any residue from the treatment process;
- referral of an applicant to DNR's Air Pollution Control Program or Water Pollution Control Program, as applicable, to check whether the hospital needs to comply with the Missouri Clean Air and/or Water Acts;
- approval of the sources of infectious waste accepted at the hospital (only small quantity generators and Missouri hospitals).

DNR may conduct site visits of hospitals to determine compliance with the Missouri Solid Waste Management Law. DNR personnel will arrange for site visits of hospitals that are not permitted infectious waste processing facilities with SSR.

#### **4. DNR roles, responsibilities and interaction points**

Should an environmental emergency occur involving infectious waste, the first point of contact shall be DNR's Environmental Emergency Response (EER) section at (573) 634-2436. If warranted, EER will arrive on site and assess the situation, document site conditions, and coordinate with the SWMP.

DNR will defer to the lead law enforcement agency if the lead law enforcement agency plans to pursue criminal charges.

At no point in time will DNR be responsible for holding evidence or securing a site for evidence purposes. This responsibility falls under the jurisdiction of the lead law enforcement agency.

During active investigations involving infectious waste, coordination shall occur between SSR and SEPH and the SWMP and APCP in order to achieve compliance with Missouri's laws and regulations.

**D. REGULATION OF MEDICAL WASTE INCINERATORS**

The Department of Natural Resources' Solid Waste Management Program (SWMP) and DHSS' Division of Senior Services and Regulation (SSR) are jointly responsible for reviewing hospitals' requests to accept infectious waste from small quantity generators and other Missouri hospitals [260.203.9, RSMo]. At times the SWMP will ask DNR's Air Pollution Control Program to provide SSR with technical assistance often involving the applicability of construction permit requirements. With respect to construction permits, APCP requires construction permits from all medical waste incinerators regardless of the amount of infectious waste they combust.

In accordance with Missouri State Regulation 10 CSR 10-6.060, "Construction Permits Required", all incinerators, regardless of size and frequency of use, require a construction permit. APCP will provide all necessary construction permit application forms and any technical assistance with Emission Inventory Questionnaire requirements.

## SECTION 6

### RADIOLOGICAL EMERGENCY RESPONSE

The Department of Health and Senior Services (DHSS), the Department of Natural Resources (DNR), and the Department of Public Safety (DPS) recognize the need for radiological emergency response planning, and the need for prompt and effective action to protect the people and resources of the state in the event of a radiological emergency. Each agency has statutory responsibility in this regard. Each agency has developed programs and professional competence to meet those responsibilities, and all are committed to cooperative efforts to ensure appropriate actions to protect public health and safety and the environment.

Responsibilities of the DHSS, with respect to radiation protection, are outlined in Chapter 192, RSMo 1986. Section 192.510 requires the DHSS to respond to all radiation emergencies and to coordinate its emergency plans and actions with DNR and the State Emergency Management Agency. Those functions are performed by the Section for Environmental Public Health (SEPH) within the DHSS Division of Environmental Health and Communicable Disease Prevention.

Article IV of the constitution designates DNR as the agency responsible for environmental control. The capability to respond to emergencies, which may threaten the environment, is essential to that control. The Air and Land Protection Division (ALPD) within DNR maintains expertise in that area. Pursuant to RSMo 260.505, DNR has developed a hazardous substance emergency response plan as an appendix to the "State of Missouri Basic Emergency Operation Plan" Part II.

The responsibilities of the State Emergency Management Agency with DPS are defined in Chapter 44, RSMo 1986, and are further addressed in the Missouri Nuclear Emergency Response Plan. That agency develops state plans, coordinates plans and activities of other state and local agencies, and provides guidance to local authorities.

Emergency response will continue to be a cooperative effort of the Department of Health and Senior Services, Natural Resources and Public Safety. The State Emergency Management Agency will be notified of all radiation emergencies. As required in 10 CSR 24.2.010 (5) (d) and 10 CSR 24.3.010 (1), the Department of Natural Resources will be notified at (573) 634-2436 if the radiation emergency involves a release of radioactive materials from containment as a result of transportation accident, landfill waste or abandoned materials. When such notification is received by any agency, the other two agencies will be called immediately (DHSS: 800-392-0272, DNR: (573) 634-2436, SEMA: (573) 752-2748). DNR Environmental Emergency Response (EER) will respond immediately to assess the situation. SEPH will respond promptly if the DNR/EER believes a public health threat exists. If there is a risk to health or safety, SEPH will serve as the lead agency in subsequent public health actions. If there is no risk to health or safety, but a threat to the environment, ALPD will assume the lead role. Collection and analysis of samples will be according to the Missouri Nuclear Emergency Response Plan. The EER will

refer to Sections 2, 4 and 37 of the Hazardous Substance Emergency Response Plan (HSERP) which is an appendix to the annex of the State of Missouri Basic Operation Plan part II and The Missouri Comprehensive Emergency Preparedness and Disaster Relief Plan, to assist in making decisions regarding radiological emergencies.

The state Emergency Management Agency will provide technical assistance as necessary and will serve as liaison with other agencies.

An appropriate response to a radiation emergency could require commitments of personnel, time and resources by all three departments. Each, at the request of another, will provide such assistance as can be made available.

Agencies will conduct joint training/exercises for radiological response activities on at least an annual basis.

## SECTION 7

### HAZARDOUS WASTE/SUBSTANCES

#### A. BACKGROUND

This chapter provides a common understanding of the responsibilities of DHSS and DNR concerning the investigation, assessment, and control of hazardous substances in the environment. It also outlines the relationship between DNR and DHSS pertaining to the health effects of hazardous substances in the environment.

The specific units covered in this chapter are for DHSS: the Section for Environmental Public Health (SEPH). For DNR the units are: the Air and Land Protection Division (ALPD), as well as the Hazardous Waste Program (HWP) and the Environmental Services Program (ESP) within the ALPD.

#### B. RESPONSIBILITIES OF PARTIES

##### 1. Statutory Responsibilities

DHSS - DHSS has primary responsibility for safeguarding the health of the people in the state and all its subdivisions (RSMo 192.020). Under 260.445.5 and 260.480.2(2) RSMo, DHSS is to evaluate the effects to human health of abandoned or uncontrolled hazardous waste sites and of releases of hazardous substances as defined in 260.500 RSMo. These evaluations can include immediate investigatory response to actual or potential environmental contamination, and advice on appropriate remedial activities to reduce or eliminate health hazards. It can also involve evaluating the human toxicity, and assessing risk from exposure to all types of hazardous substances in the environment. Conducting epidemiological studies to identify trends in environmentally related diseases can be part of the evaluation process.

RSMo 192.011 requires DHSS to monitor adverse health effects of the environment and prepare population risk assessments regarding environmental hazards including, but not limited to, those relating to water, air, toxic waste, solid waste, sewage disposal, and others. DHSS is to make recommendations to DNR for improvement of public health as related to the environment.

Another responsibility of DHSS [10 CSR 25-7.264(2)(P)] is the technical review and approval of all health profiles prepared as part of a hazardous waste treatment or disposal facility permit application to DNR. DHSS should be consulted regarding appropriate factors to be included in the health profile and when additional epidemiological investigations may be required.

DNR - DNR/HWP is responsible for supervision and enforcement of the Missouri Hazardous Waste Management Law (260.350 - 260.550 RSMo). This includes all

standards, rules and regulations, and orders or license or permit terms and conditions adopted or issued thereunder for active and closed hazardous waste management facilities. It also involves the investigation of abandoned or uncontrolled hazardous waste sites, maintenance of a registry of confirmed abandoned or uncontrolled hazardous waste disposal sites, and preparation of an annual report on the sites on the registry. In addition, the ESP, EER is responsible for ensuring the protection of the public health and the environment from hazardous substance emergencies under Section 260.500 – 550 RSMo.

## **2. Cooperative Activities**

DHSS - SEPH will provide individual site health assessments to HWP for each site added to the registry of hazardous waste sites. Health assessments include evaluation of the data on the chemicals at the site, potential for exposure, and morbidity and mortality rates from around the site. Assessments will be reviewed at least annually and updated when necessary.

Whenever actions to abate a hazardous substance emergency or clean up a hazardous substance release require it, SEPH will conduct health assessments for sites not on the registry at the request of the ESP, EER in consultation with ALPD management.

SEPH will provide consultation and advice to HWP and each hazardous waste permit applicant concerning information required for the health profile portion of the hazardous waste permit application. DHSS will assist the applicant in obtaining any relevant data, which it may have to aid development of the health profile. The applicant may be charged for this assistance and the data. SEPH is responsible for providing technical review and final approval of the health profile submitted by the applicant. SEPH will assist HWP in determining when revisions to the regulations on health profiles are needed, and in actually making the revisions.

DHSS staff will provide testimony before the Hazardous Waste Management Commission's public meetings and hearings concerning the health effects of hazardous waste and the impact of both uncontrolled and permitted hazardous waste sites on the health of the people of the State.

DHSS may conduct site visits for purposes of gathering information to provide health assessments to DNR. If DHSS wishes to conduct an on-site visit at a hazardous waste site, DHSS field personnel will arrange for this visit with DNR. DNR will cooperate in making arrangements for DHSS site visits whenever necessary. DHSS field personnel will be accompanied by DNR field personnel during the site visit whenever possible or necessary.

DHSS may conduct activities in the vicinity of the site to conduct public health activities. DHSS will notify the DNR project manager of these activities prior to making the visit. When necessary, DNR agrees to keep these visits confidential.

DNR - For both actual and potential abandoned and uncontrolled sites, HWP will provide SEPH copies of site identification forms, preliminary risk assessments, site inspection reports, Hazard Ranking System evaluations including worksheets, and all registry updates. Site inspection reports will be delivered to SEPH at least 20 days before annual Registry health assessments are due to DNR.

DHSS will be a voting member of DNR's Hazardous Waste Site Assessment Committee.

Each agency will provide support to the other agency in the preparation and issuance of administrative orders or in pursuit of other appropriate actions to help abate public health emergencies associated with hazardous substance emergencies.

ESP, EER agrees to provide the DHSS Hazardous Substances Emergency Events Surveillance staff reports of hazardous substance releases on a routine basis.

Both agencies agree that participation in public meetings, hearings, availability sessions or other public events will be requested at least 10 working days in advance of the event by either agency.

## SECTION 8

### AIR POLLUTION CONTROL

#### A. GENERAL AUTHORITIES

Under 192.020, RSMo, DHSS has primary responsibility for safeguarding the health of the people in the state and all its subdivisions.

The Missouri Air Conservation Law, Chapter 643, RSMo, contains the authorities the Air Pollution Control Program (APCP) and the Missouri Air Conservation Commission (MACC) administer. Section 643.040 creates the MACC, which is a seven-member board appointed by the Governor to four-year terms. It is a rulemaking and policy board whose directives are carried out by the Director of the Department of Natural Resources. Section 643.050 outlines the commission's powers and duties.

The intent and purpose of Chapter 643, RSMo, is to maintain the purity of the air resources of the state in order to protect the health, general welfare and physical property of the people, and the maximum employment and full industrial development of the state. The MACC will seek to achieve this objective through the prevention, abatement and control of air pollution by all practical and economically feasible methods.

The Missouri Air Conservation Law grants the MACC broad authority to regulate sources of "Air Pollution." Paragraph 643.020.6, RSMo, defines "Air Pollution" in this way:

"(6) 'Air Pollution', the presence in the ambient air of one or more air contaminants in quantities, of characteristics and of duration which directly and proximately cause or contribute to injury to human, plant, or animal life or health or to property or which unreasonably interferes with the enjoyment of life or use of property."

One means the MACC has to regulate sources of air pollution is the requirement for a permit to commence construction of any air contaminant source that is of a class that regulation [643.075.1, RSMo] defines. Before issuing a construction permit to build or modify an air contaminant source, the APCP director will determine the impact of the source on ambient air quality standards, and will determine if this impact exceeds the standards in the vicinity of the source [643.075.3, RSMo]. A second regulatory authority of the MACC, as Section 643.078, RSMo, is the requirement of a permit to operate any regulated air contaminant source. The APCP director has the authority to validate an operating permit after determining that an air contaminant source meets the terms and conditions of the construction permit, and that the operation of the source will not result in emissions exceeding the limits established in the construction permit [643.078.6, RSMo].

Section 643.085, RSMo grants enforcement authority to the MACC. Upon the APCP director's determination that a provision of Sections 643.010 to 643.250, RSMo, or a standard, limitation, order, promulgated rule or regulation, or a term or condition of any permit was violated, the director may issue an order assessing an administrative penalty upon the violator [643.085.1, RSMo]. The MACC will promulgate rules and regulations for the assessment of these administrative penalties [643.085.2, RSMo]. However, the granting of variances [643.110, RSMo], the right to appeal MACC rulings [643.120, RSMo], and the requirement of judicial review of all final orders and determinations [643.130 RSMo] balances this enforcement authority.

## **B. PROTOCOL FOR RISK ASSESSMENT LEVEL (RAL) DETERMINATION**

APCP uses a toxicity assessment called a RAL. The APCP needs the RAL because it has a role in the issuance of air permits. These permits are important to the State of Missouri because businesses that are sources of air pollution cannot operate in Missouri without an air permit. The RAL is, therefore, invaluable to the protection of the health of Missourians and to the promotion of the economic health of Missouri.

Overall, the preferred data source for deriving RALs is the U.S. Environmental Protection Agency's (EPA) Integrated Risk Information System (IRIS). This database contains both cancer and noncancer toxicity information that is of the highest level of data quality. The information presented in IRIS has been verified, undergoing an internal peer review process and in many cases an external scientific peer review as well. This database contains estimates of inhalation cancer potency, called a unit risk estimate, and estimates of inhalation noncancer potency, called a Reference Concentration ( $R_fCs$ ). IRIS also summarizes U.S. EPA's weight-of-evidence for carcinogenic determination.

When cancer potency estimates and  $R_fCs$  are unavailable in IRIS, the next preferences are the California Environmental Protection Agency (CalEPA) and the Agency for Toxic Substances and Disease Registry (ATSDR). CalEPA information is considered a good source of surrogate information because risk assessment practices are similar to those of U.S. EPA, including a formal peer review process. Additionally, a formal comparison showed that in most cases, cancer and noncancer toxicity values did not vary by more than five-fold between U.S. EPA and CalEPA. CalEPA provides estimates of inhalation cancer potency called the cancer potency values. The Agency also provides estimates of inhalation noncancer potency called Chronic Reference Exposure Levels (RELs). CalEPA developed these RELs in an analogous manner to that of U.S. EPA's  $R_fCs$ . ATSDR also derives estimates of inhalation noncancer potency called Minimal Risk Levels (MRLs). The Agency derives MRLs in a manner similar to U.S. EPA's practice of deriving  $R_fCs$ , including a rigorous peer-review process.

The final source of data is U.S. EPA's Health Effects Summary Tables (HEAST). These tables contain provisional toxicity values that have undergone some form of internal U.S. EPA review, but not an Agency-wide peer review. HEAST consolidates both cancer and noncancer toxicity values from various U.S. EPA offices for chemicals of interest to the Superfund and Resource, Conservation, and Recovery Act programs.

As U.S. EPA did in the National Air Toxics Assessment, the APCP toxicologist prioritizes cancer and noncancer health effects data in the following order from highest to lowest:

- Unit Risk Estimates and R<sub>f</sub>Cs from U.S. EPA's IRIS.
- Cancer Potency Values and Chronic RELs from CalEPA, and MRLs from ATSDR.
- Provisional cancer and noncancer toxicity values from HEAST.

Once the APCP toxicologist chooses the data of highest priority, he/she may adopt the cancer and noncancer health effects data to represent the RAL, or use these data to derive an RAL.

At times however, such toxicity data will not be available. For these situations, alternative methods are followed. For those pollutants which the APCP toxicologist must derive RALs, he/she derives RALs for cancer health effects based on methods to derive a Safe Air Concentration, and RALs for noncancer health effects based on occupational exposure levels.

Methods to derive a Safe Air Concentration are the basis of RALs for cancer health effects. A Safe Air Concentration is calculated using equations found in U.S. EPA's *Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual* (EPA/54/1-89/002). Values in place of variables in these equations will be U.S. EPA standard default values (Office of Solid Waste and Emergency Response Directives 9285.6-03 and 9287.7-01B). IRIS provides the unit risk values used to determine the slope factor. The derived Safe Air Concentration is the APCP toxicologist's recommended RAL.

The basis of RALs for noncancer health effects is one of the following occupational exposure levels (OELs):

- National Institute of Occupational Safety and Health's Recommended Exposure Limits,
- Occupational Safety and Health Administration's Permissible Exposure Limits, and
- American Conference of Government Industrial Hygienist's Threshold Limit Values.

To adjust for ambient exposure, the preferred OEL is divided by a factor of 4.2 (168 hours/week ÷ 40 hours of work/week). Additional division using Uncertainty Factors and a Modifying Factor account for inter-individual variation and/or the relative severity of the effect, and for the use of professional judgement because of deficiencies in the overall database, respectively. The calculated ambient exposure is divided by the uncertainty factor and modifying factor to yield the APCP toxicologist's recommended

RAL.

APCP will send the recommended RALs for cancer and noncancer health effects to the Department of Health and Senior Services' Section for Environmental Public Health (SEPH) for its comments. APCP and SEPH agree that the comment period will be for 30 calendar days. Within 30 calendar days, SEPH will either concur with the APCP toxicologist's recommended RALs or will offer its own recommendation. If SEPH concurs with the APCP toxicologist, then APCP's recommended RALs would become the State's air permit emissions guidelines. If SEPH does not concur with the APCP toxicologist, then SEPH's recommendation will become the State's air permit emissions guidelines.

### **C. RESPONSIBILITIES – ASBESTOS**

APCP accepts delegation of authority from the EPA for enforcement of the asbestos provisions of the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The Asbestos NESHAP may be found at 40 CFR Part 61, subpart M. The Asbestos NESHAP applies to all asbestos projects that disturb 160 square feet, or 260 linear feet or more, of friable asbestos-containing material.

State Regulation 10 CSR 10-6.250, "Asbestos Abatement Projects – Certification, Accreditation and Business Exemption Requirements", regulates training, testing and certification of asbestos abatement occupations. Regulated occupations are workers, supervisors, inspectors, management planners, project designers and air sampling professionals and technicians. This state regulation also requires Missouri accreditation for schools that train personnel who work on Missouri asbestos projects. Section 643.235 RSMo requires submittal of project notifications and post-notifications.

APCP Enforcement Section staff answer questions about requirements, review asbestos project notifications and demolition project notifications, inspect asbestos abatement and demolition projects, review applications for course accreditation, audit accredited courses, review applications for asbestos occupational certification and contractor registration, and approve or deny accreditation, registration or certification as appropriate. Enforcement actions are also taken against those found in violation of the department's requirement to act as a deterrent from committing future violations.

### **C. RESPONSIBILITIES – LEAD ABATEMENT**

DHSS is responsible for lead paint abatement activities and regulations regarding lead paint [701.301 RSMo]. APCP is responsible for the enforcement of the National Ambient Air Quality Standard for Lead and for insuring compliance with Lead State Implementation Plans [643.050 RSMo].

**E. RESPONSIBILITIES – RESIDUAL RISK**

Section 112(f) of the 1990 Clean Air Act Amendments requires an assessment of the human health risk due to exposure to air pollutants eight years after operators install the required air pollution control devices. The 1990 Amendments refer to this post-control human health risk as the residual risk. Currently, the EPA is developing guidance explaining the methodology a regulatory agency will use to assess residual risk. It is possible that EPA will identify state regulatory agencies as the agencies responsible for assessing residual risk. If EPA does require state regulatory agencies to assess residual risk, the APCP's staff toxicologist will be responsible for these residual risk assessments in consultation with DHSS.

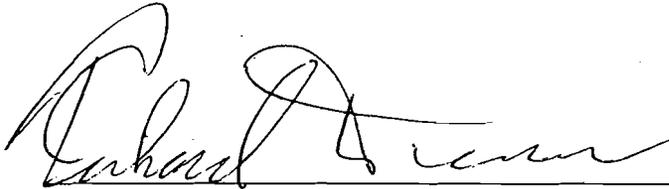
**F. RESPONSIBILITIES – CEASE AND DESIST ORDERS**

When an activity or generalized condition poses a significant risk of air contamination and constitutes a clear and present danger to the public health, the public welfare or the environment, the director of the Department of Natural Resources can issue a cease and desist order. This action is reserved for emergencies. Before issuing a cease and desist order [643.090, RSMo], APCP will request concurrence from DHSS that the activity or contamination poses a danger to the public health.

# SIGNATURES

THIS MEMORANDUM OF UNDERSTANDING IS AGREED TO AND IS BINDING ON OUR RESPECTIVE AGENCIES.

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES



RICHARD DUNN  
DIRECTOR

10/  
27/03  
DATE

MISSOURI DEPARTMENT OF NATURAL RESOURCES



STEVE MAHFOOD  
DIRECTOR

11-13-03  
DATE

**APPENDIX A**

**MISSOURI DEPARTMENT OF NATURAL RESOURCES  
BOIL WATER ORDER GUIDANCE**

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Department of Natural Resources

**Public Drinking Water Program**

**GUIDANCE FOR ISSUING BOIL WATER ORDERS**

**AUTHORITY**

Section 640.130 of the Missouri Safe Drinking Water Act states, "Whenever the Department of Natural Resources determines that an emergency exists which endangers or could be expected to endanger the public health and safety with regard to drinking water supplies, the Department of Natural Resources may, without notice or hearing, issue an [administrative] order reciting the existence of such a condition and requiring the person to take such action as will lessen or abate the danger." This statement provides the necessary authority for issuing boil water orders.

**IMPLEMENTATION**

Under emergency conditions as described above, and below (under APPLICATIONS), the staff of each regional office may issue or require issuance of a Boil Water ORDER at the discretion of the Regional Director. To do so, the Regional Director (or his representative) notifies the Public Drinking Water Program (PDWP), Water Protection and Soil Conservation Division (WPSCD), and the Director's Office, using EMAIL (priority 1) to outline the details and facts of the situation, and issues a Boil Water ORDER to the public water system. In some cases, the Regional Director may determine that the department should issue the news media notice (radio/television) for the public water system. The Regional Director (or his representative) should follow up the EMAIL with a brief phone call to PDWP to insure the information is received promptly.

Regional offices are responsible for notifying area media about any boil orders on public water systems (community and non-community) issued in their region, unless the Regional Director (or his representative) determines the public water system can be relied upon to notify the media. Attached are forms to be filled in and used when contacting media representatives. The boil order form gives basic information on the location and cause of the boil order, as well as precautions to be followed by the public served by the affected water system. The form for a boil order rescission (lift) gives the location of the affected water system and the effective date for the lift. A contact name and phone number should be filled in at the bottom so media may call for more information.

The person(s) from the regional office (or public water system) assigned to notify the media should FAX a copy of the completed form to all area newspapers and radio stations. (Most television stations will be interested only when the boil order affects a significant number of

people. When the order does affect many people, area television stations should be notified also.) When no FAX number is available, someone from the regional office (or the public water system) should read the information over the phone to a representative at the newspaper, or radio or television station. Any requests from the media for more information should be referred to the contact person listed at the bottom of the form.

The regional office (or public water system) should contact the same media when the boil order is lifted as when the order was issued.

When a boil order is issued or lifted by the regional office, the regional office employee responsible for contacting the media should NOTIFY THE BOIL ORDER NOTIFICATION GROUP (BONG), which will include staff from the following: PDWP, Water Protection and Soil Conservation Division (WPSCD), and the Director's Office, by using EMAIL (Priority 1) with a follow-up phone call to the PDWP.

NOTE: The EMAIL should include the following information as a minimum:

- PWS name and ID#,
- county and nearest town,
- reason for boil order,
- corrective action(s) already taken by PWS,
- corrective action(s) recommended by RO,
- the date of the boil order,
- the media contacts made,
- and the date of the contacts.

The DEQ Public Information staff will supply media guides to the regional offices.

### **BOIL WATER NOTICE**

Under less critical conditions in which an "administrative order" is not deemed necessary, the Regional Director may, as an alternative, recommend that a public water system issue a Boil Water NOTICE. A recommended Boil Water NOTICE may be appropriate when an actual emergency does not exist, but there is concern about the quality of the water (i.e. main breaks, turbidity, low disinfectant residual, etc.).

Since the NOTICE is recommended rather than required, issuance of a Boil Water ORDER by the Regional Director is not necessary if the public water system fails to issue the NOTICE. In this case, the Regional Director or his representative should verbally recommend the public water system issue a Boil Water NOTICE, and confirm the recommendation in a letter to the public water system. Again, PDWP and Water Protection and Soil Conservation Division (WPSCD) should be notified of the details by a brief EMAIL (priority 1). A follow-up phone call to PDWP is recommended.

## **BOIL WATER ORDER - ISSUANCE**

Upon reaching a decision to issue a Boil Water ORDER, the Regional Director (or his representative) will:

- (1) Notify the public water system officials by phone that news media notice (radio/television) is required IMMEDIATELY (within 24 hours). This notice must instruct all affected customers to BOIL the water until further notice, provide procedures for adequately boiling the water, and explain what happened to require this Boil Water ORDER. The public water system officials must be directed to notify the MEDIA, and be given specific instructions to contact affected schools when in session. In addition, if it is the judgement of the Regional Director that the public water system is not capable (or dependable) of issuing the appropriate news media notice, the Regional Director should issue the news media notice for the public water system;
- (2) As outlined previously, notify PDWP, Water Protection and Soil Conservation (WPSCD), and the Director's Office, using EMAIL (priority 1) with a follow-up phone call to PDWP. NOTE: The EMAIL should include the following information as a minimum:
  - PWS name and ID#,
  - county and nearest town,
  - reason for boil order,
  - corrective action(s) already taken by PWS,
  - corrective action(s) recommended by RO,
  - the effective date of the boil order,
  - the media contacts made,
  - and the date of the contacts;
- (3) Notify the appropriate district office of the Department of Health and Senior Services (DHSS) by phone;
- (4) Issue a written "Boil Water ORDER" to the public water system officials, advising them that the Boil Water ORDER has been "issued", and that the public water system officials must notify the MEDIA (in cases where the public water system notifies the media instead of the regional office staff) and to notify affected schools (when in session) that the Boil Water ORDER has been "issued". The "Boil Water ORDER" must also outline the violation(s), the health risks, the procedures for adequately boiling the water, and the corrective steps the public water system must take.

NOTE: For NON-COMMUNITY water systems, serious consideration should be given to ordering the water system "shut down" until the problem(s) has been corrected, instead of issuing a Boil Water ORDER.

## **BOIL WATER ORDER - RESCISSION (lifting)**

**GENERAL:** The Boil Water ORDER should remain in effect until safe sample results (for two consecutive days) have been obtained and the Regional Director determines the problem has been satisfactorily corrected, with written documentation. **NOTE:** If the public water system has "disinfected and flushed" the distribution system as part of correcting the problem(s), the Boil Water ORDER should **NOT** be lifted until two consecutive days of safe samples are obtained after there is no longer a chlorine residual in the water. This is necessary to determine if the source of the problem has been corrected; in several cases, unsafe samples were obtained immediately after the chlorine was completely flushed from the distribution system.

At this time, the Regional Director (or his representative) will:

- (1) Notify the public water system officials by phone that it is appropriate for the Boil Water ORDER to be "lifted", and that the news media should be notified of this (unless the regional office issued the news media notice for the public water system, in which case the regional office will notify the news media). The public water system officials must be given specific instructions to contact affected schools when in session;
- (2) Notify PDWP, Water Protection and Soil Conservation Division (WPSCD), and the Director's Office, using EMAIL (priority 1) with a follow-up phone call to PDWP, that it is appropriate for the Boil Water ORDER to be "lifted". If the Department (regional office) did the news media notice for the public water system, the Department (regional office) will also notify the news media that the Boil Water ORDER has been "lifted".  
**NOTE:** The EMAIL should include the following information as a minimum:
  - PWS name and ID#,
  - county and nearest town,
  - reason for boil order,
  - corrective action(s) taken by PWS,
  - any additional corrective action(s) recommended by RO,
  - the effective date of the boil order "lift",
  - the media contacts made,
  - and the date of the contacts;
- (3) Notify the SEPH Administrator and Unit Chiefs by phone; and
- (4) Issue a letter to the public water system officials, advising them (in writing) that the Boil Water ORDER has been "lifted", that the public water system officials must notify the media (in cases where the public water system notifies the media instead of the regional office) and notify affected schools (when in session) that the Boil Water ORDER has been "lifted", and identify the corrective actions taken by the public water system and by the regional office staff.

## **APPLICATION**

### **Microbiological Contamination**

The presence of fecal coliform contamination in a public water system as indicated by unsatisfactory bacteriological analyses (acute MCL violations) of routine and/or confirmatory repeat samples, is sufficient cause for issuing a Boil Water ORDER and a notice to consumers to boil all water used for drinking or culinary purposes. The Boil Water ORDER must remain in effect until analyses indicate the water is safe to use (2 consecutive days of samples after disinfectant has been flushed out) and the problem has been corrected to the satisfaction of the Regional Director.

### **Low Water Pressure**

Low water pressure in a distribution system is a signal of the existence of conditions which could allow contamination to enter the public water system by backflow or back-siphonage. Pressure dropping below 20 psi in any part of a public water system is considered just cause to issue a Boil Water ORDER for the protection of consumers. The Boil Water ORDER must remain in effect until analyses indicate the water is safe to use and the problem has been corrected to the satisfaction of the Regional Director.

### **Turbidity**

Turbidity in finished water interferes with the disinfection process. Turbidity measurements in excess of the maximum contaminant level (5 turbidity units in any one confirmed measurement) are sufficient cause to issue a Boil Water ORDER. The Boil Water ORDER must remain in effect until the turbidity is reduced below 0.5 turbidity units, bacteriological samples indicate the water is safe and the problem has been corrected to the satisfaction of the Regional Director. If turbidity measurements are in excess of 0.5 turbidity units in more than 5% of the measurements taken each month, a Boil Water NOTICE should be recommended by the Regional Director until the problem has been satisfactorily corrected.

## **GENERAL**

The Regional Director should utilize Boil Water ORDERS whenever, in his judgment, there exists a serious threat to the health of consumers.

NOTE: Issuance of a Boil Water ORDER/NOTICE does not relieve the public water system of public notification requirements.

## NOTICE OF BOIL WATER ORDER (ISSUANCE)

The Missouri Department of Natural Resources has issued a boil water order

for the \_\_\_\_\_ Public Water System (ID # \_\_\_\_\_).  
(name of system)

The system is located \_\_\_\_\_.  
(county and nearest town)

Department officials declared the order because

(contaminant)

was found in water samples taken from the public water system on \_\_\_\_\_.  
(date)

The order took effect on \_\_\_\_\_ and will remain in effect until water samples  
(date)

indicate that the contaminant is no longer present. Public water system personnel will  
continue to sample the water until they determine that it is safe to drink.

Anyone served by the affected public water system should observe the following  
precautions:

- ◆ Boil water vigorously for three minutes prior to use for cooking or drinking.
- ◆ Disinfect food contact surfaces (dishes) by immersing them for at least one minute in clean tap water that contains one teaspoon of unscented household bleach per gallon of water.
- ◆ Dispose of ice cubes and remake with water that has been boiled.
- ◆ Continue boiling all water that is to be used for cooking or drinking until the cause of the contamination has been found and corrected.
- ◆ Water used for bathing does not need to be boiled.

The Department of Natural Resources will notify area media when the boil order is lifted.

For more information, call \_\_\_\_\_, \_\_\_\_\_,  
(name) (title)

at (\_\_\_\_\_) \_\_\_\_\_.  
(office telephone)

**NOTICE OF BOIL WATER ORDER RESCISSION (LIFTING)**

**The Missouri Department of Natural Resources has lifted the boil water order**

**for the \_\_\_\_\_ Public Water System (ID # \_\_\_\_\_).**  
**(name of system)**

**The system is located \_\_\_\_\_.**  
**(county and nearest town)**

**Department officials lifted the order on \_\_\_\_\_ after test results from water samples**  
**(date)**

**taken on \_\_\_\_\_ showed that the water is again safe to drink.**  
**(dates)**

**Department officials declared the order because \_\_\_\_\_ was found**  
**(contaminant)**

**in water samples taken from the water system on \_\_\_\_\_.**  
**(dates)**

**[Describe action taken by DNR and PWS; i.e., what was found and corrected]**

**For more information, call \_\_\_\_\_,**  
**(name)**

**\_\_\_\_\_, at ( ) \_\_\_\_\_.**  
**(title) (office telephone)**

**BOIL WATER ORDER**

**Issuance by the Department of Natural Resources**

**Under the authority of Section 640.130 of the Revised Statutes of Missouri, the Missouri Department of Natural Resources is hereby ordering the**

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
**(Public Water System Name) (County) (PWS I.D. No.)**

**(address)**

**to boil the water, and to immediately advise all of the consumers to boil the water for all drinking or culinary purposes, until further notice.**

**The Missouri Department of Natural Resources (MDNR) sets drinking water standards and has determined that an emergency exists which endangers or could be expected to endanger**

**the public health and safety of the customers of this public water system.**

## **APPENDIX B**

### **MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES BOIL ORDER PROCEDURE**

A boil order may be issued when it is necessary to safeguard the health of the people of Missouri as authorized under Section 192.020 RSMo.

Reasons for a Boil Orders are:

- A. Microbiological Contamination-the imminent threat of or the presence of fecal coliform in a water supply as indicated by unsatisfactory bacteriological analyses and/or epidemiologic association of the water with human illness.
- B. Low Water Pressure-pressure below 20 psi in any part of the system signals the existence of conditions, which could allow contamination of the water supply through backflow.
- C. Turbidity-in excess of 5 turbidity units in any one confirmed unit interferes with the disinfection process.
- D. Other Physical Findings-which indicates imminent potential for bacteriological contamination of the water system.

Limited Use Order may be issued for the following reasons:

- A. Chemical or Radiological Contamination-exceeding or the expectation of exceeding the maximum contaminant level (MCL) of any constituent as identified in DNR rule 10 CSR 60-4.010 that may pose an acute risk to human health and/or epidemiologic association of the water with human illness.
- B. Other Physical Findings-which indicates imminent potential for chemical and/or radiological contamination of the water system.

Local governments and/or water purveyors may issue a Boil Water Advisory, a Limited Use Advisory or a Conserve Water Advisory. These issuances are advisories only and the SEPH and the local health department environmental public health specialist, if any, shall cooperate in determining the public health risks for each occurrence. Responsible personnel within the local government (e.g. mayor, city manager), water agency, and emergency operations center (if existing), shall be consulted for their assessment of the integrity of the water supply and distribution system and their reasons for issuance of the advisory. SEPH will be available for consultation and technical advice, if necessary. Such determination of public health risks may require monitoring of disinfectant residual in distal and dead-end segments of the water distribution system.