

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.030 Application for Permit to Drill, Deepen, Plug-Back, or Recomplete.** The council is amending sections (1), (2), (3), (5), (6), and (9)

*PURPOSE: This amendment improves readability by removing unnecessary restrictive language, removing the requirement for blanket drilling permit requests to be part of an established production unit, and allows the operator the ability to better manage prospective resource exploration.*

(1) Prior to commencement of operations, application for a permit to drill, deepen, plug-back, or recomplete any well shall be submitted to and approved by the state geologist. *[The required operator license and bond must be on file in the office of the state geologist or must accompany the application.]*

(2) The application for a permit to drill, deepen, plug-back, or recomplete shall be **completed in full and** submitted on a form provided by the department along with the **applicable fee [required]** pursuant to 10 CSR 50-1.050 *[and shall be completed in full]*.

**(3) Well location.**

*[(3)](A)* All applications shall *[be accompanied by a completed well location form and]* **include** an accurate well location map/.

*(A) The location map shall* showing the following:

1. Approximate location of the well within the section or quarter section;
2. Approximate distance to the nearest existing or proposed well;
3. Approximate distance to the nearest perceived spacing unit line or production unit line;
4. Names and addresses of the owners of the property on which the well is located;
5. A north arrow and a scale; and
6. For a horizontal well, the proposed location of the wellbore's path and terminus.

(B) The proposed well location shall be provided using latitude and longitude based on the North American Datum of 1983 (NAD 83) and expressed in the decimal form to the fifth place. Any well that is found to not meet the minimum location requirements upon completion may be ordered to be plugged by the state geologist.

(C) A drilling location may be moved up to fifty feet (50') from the approved location, if the new location does not violate spacing or setback requirements, without filing a revised permit application. Such changed location shall be noted on the well completion report.

**(5) Blanket permits to drill, deepen, plug-back, or recomplete.**

*[(5)](A)* An operator engaged in drilling wells to depths no greater than one thousand five hundred feet (1500') may request that the state geologist approve prospective well locations on a blanket basis. The **applicable fee [required]** pursuant to 10 CSR 50-1.050(1)(C)3. shall be submitted with the request. *[Blanket requests must be associated with an established production unit.]* Bonding must be in place for all proposed wells in the blanket request. The request shall be accompanied by a plat of the entire production unit, *[/]* **that—**

1. *[indicating]* **Indicates** the unit boundaries, the location of, and identifying by number, all wells which have been drilled or are proposed, *;/*;
2. *[using]* **Uses** appropriate symbols to distinguish between them; **and**
3. *[the plat shall c/]* **Conforms** to the *[scale and distance]* requirements specified in section (3) of this rule.

(B) In the event the state geologist approves the blanket requests, the approved locations may be drilled in the operator's order of preference, *provided that a/*. **Locations of stratigraphic test wells may be moved within the established production unit at the operator's discretion.** A permit application and **applicable fee [required]** pursuant to 10 CSR 50-1.050(1)(C)1. for each well commenced shall be sent to the state geologist within twenty-four (24) hours, or the next business day, after the commencement of drilling of each well.

(6) Upon application for a permit to drill, deepen, plug-back, or recomplete, the state geologist *[shall]* **will** review the application and, within fifteen (15) business days, determine if the application is in proper form and if the requirements of Chapter 259, RSMo, and implementing regulations are met. If the application is incomplete or lacking *[required]* information, forms, or fees, the state geologist *[shall]* **will** notify the operator and suspend the application process. When the *[required]* **missing** form, information, or fee is submitted by the operator and received by the state geologist, the fifteen (15) business day review period will begin anew. If the state geologist has not received the missing or incomplete *[required]* application information or fee within thirty (30) days after notification of the operator, the application *[shall]* **will** be considered null and void and the operator must reapply by submitting a new application for a permit to drill, deepen, plug-back, or recomplete, along with the *[required]* **associated fee.**

(A) If the state geologist finds that the application is in good form, that all requirements of the application have been met, and that Chapter 259, RSMo, and implementing regulations are being met, the state geologist *[shall]* **will** issue the permit.

(B) If the state geologist determines either that the application is not in proper form, that the operator failed to submit the applicable fees, or that Chapter 259, RSMo, and implementing regulations are not being met, *[the state geologist shall deny]* the permit **will be denied.**

(9) Prior to any change or modification of a permit, or any change in the operation of a well subject to these regulations, the operator shall notify the state geologist, identifying the well name, location, the proposed change, and a full explanation of the nature of the change. An appropriately revised permit application or application for permit for well recompletion along with the **applicable fee [required]** pursuant to 10 CSR 50-1.050 shall be submitted to the state geologist for approval, except as provided in subsection (3)(C). No modification or change in operation *[shall]* **may** begin until the state geologist has reviewed and approved the revised application. The state geologist *[shall]* **will** review and respond to the notification within fifteen (15) business days. The review period *[shall]* **will** be suspended if additional information is necessary to effectively review the application. When the *[required]* **missing** form or information is submitted by the operator and received by the state geologist, the fifteen (15) business day review period will begin anew.

*AUTHORITY: sections 259.060, 259.070, 259.080, and 259.140, [RSMo 2000, and sections 259.070 and 259.080,] RSMo [Supp. 2015] 2016. Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. For intervening history, please consult the Code of State Regulations. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition*

to this proposed amendment with Department of Natural Resources' Geological Survey Program attention to Kimberly Ward at PO Box 250, III Fairgrounds Rd., Rolla, MO 65402 or via email to kimberly.ward@dnr.mo.gov. To be considered, comments must be received by the close of the public comment period on September 13, 2018 at 5:00 p.m. A public hearing is scheduled for 10 a.m., September 6, 2018, Mozarkite Conference Room, Missouri Geological Survey, III Fairgrounds Road, Rolla, MO 65401.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.040 Drilling and Completion.** The council is amending sections (3), (4), (7), (10), (11), (12), and (13), removing section (9), and renumbering as needed.

*PURPOSE:* This amendment removes documentation requirements from section (9) and moves them into 10 CSR 50-2.080, incorporates requirements from 10 CSR 50-2.055(9) into subparagraph (7)(B)1.B., improves readability, and removes unnecessary restrictive language pursuant to Executive Order 17-03 and the Red Tape Reduction Initiative.

(3) All wells drilled shall be completed with tubing, packer, and a string(s) of casing which *[shall be]* are properly cemented at sufficient depths to protect all water, oil, or gas bearing strata and *[shall]* prevents their contents from passing into other strata. For wells drilled to producing strata at a depth of no greater than one thousand five hundred feet (1500'), an operator may set a single casing string with no tubing or packer, if the well is cemented from the bottom of the casing to the surface to seal off and protect any underground source of drinking water. The state geologist may approve other methods of cementing casing in a well.

(4) Cement shall, **except as otherwise modified or approved by the state geologist—**

(A) *[b/Be]* used in setting all casing or sealing off producing strata, underground porosity gas storage strata, or underground sources of drinking water. *[Cement shall];*

(B) *[b/Be]* installed from the bottom to the top of the casing in one (1) continuous operation using pressure grouting techniques. *[The cement must];*

(C) *[b/Be]* placed in a minimum one inch (1") annulus between strings of casing or the casing and borehole. *[The cement shall];*

(D) *[b/Be]* maintained at surface level. *]; and*

(E) **Be in place for at least eight (8) hours and reach a compressive strength of three hundred (300) pounds per square inch *[B/]*before the bottom plug is drilled or before tests are initiated, *[the surface casing shall stand cemented]* and before further operations *[shall not]* begin *[until the cement has been in place for at least eight (8) hours and has reached a compressive strength of three hundred (300) pounds per square inch. These requirements may be modified by the state geologist].***

(7) *[The]* **Each operator of a permitted injection well shall comply with the following requirements *[shall apply to permitted injection wells]:***

(A) *[Each operator shall e/]*Equip the wellhead with a pressure observation valve and maintain equipment necessary to obtain injection pressure measurements upon inspection by an authorized representative(s) of the state geologist. For injection wells completed prior to March 30, 2016, add the pressure observation valve *[shall be added]* prior to testing for mechanical integrity, or upon request of the state geologist;

(B) *[The following t/]*Tubing and packer requirements *[shall apply to permitted injection wells]:*

1. Each well permitted shall meet one (1) of the following requirements:

A. **Equip** *[T/]*the well *[shall be equipped]* to inject through tubing below a packer;

B. **Set** *[A/a]* packer run on the tubing *[shall be set]* in casing opposite a cemented interval at a point immediately above the uppermost perforation or openhole interval. **Fill** *[T/]*the annulus between the tubing and the casing *[shall be filled]* with a corrosion-inhibiting fluid or hydrocarbon liquid. **All wells using wellhead pressure to inject fluids must follow the tubing and packer requirements set in this subparagraph; or**

C. **Construct** *[A/a]* packerless or tubingless completion for injection wells drilled to no greater than one thousand five hundred feet (1500') *[is authorized under the provisions of]* pursuant to paragraph (7)(B)2. or 3. of this regulation. *];*

2. Injection through tubing without a packer is authorized if all of the following requirements are met:

A. **Run** *[T/]*the tubing *[shall be run]* to a depth not shallower than forty feet (40') above the uppermost perforation or open hole of the injection interval;

B. **Equip** *[E/]*each wellhead *[shall be equipped]* with a pressure observation valve on the tubing and the tubing-casing annulus; and

C. *[The operator of the tubingless completion shall m/]*Maintain the well so that the mechanical integrity tests can be performed as specified in 10 CSR 50-2.055(12) *]; and].*

3. Injection without tubing is authorized if all of the following requirements are continuously met during the life of the well:

A. The casing *[shall be]* is cemented continuously from setting depth to surface;

B. Surface wellhead injection pressure *[shall be]* is recorded monthly and kept by the operator for five (5) years;

C. All pressure readings recorded *[shall be]* are taken during actual injection operations; and

D. The operator of the tubingless completion *[shall]* maintains the well so that the mechanical integrity tests can be performed as specified in 10 CSR 50-2.055(12).

*[(9) Documentation. Legible documentation of the cementing operations across all strata shall be maintained by the operator and provided to the state geologist upon request. The documentation may consist of invoices, job logs, job descriptions, or other similar service company reports.]*

*[(10)](9)* All points at which a well is in physical contact with a pool shall meet all minimum distance requirements as specified in 10 CSR 50. For horizontal wells, **submit** a directional survey *[must be submitted]* with *[a]* the well completion or recompletion report to verify points at which the well is in contact with the pool.

*[(11)](10)* Any well not constructed in compliance with requirements of this regulation shall be shut in, according to 10 CSR 50-2.060 until compliance is achieved.

*[(12)](11)* All stratigraphic test wells that are not converted to another type of well must be permanently plugged according to 10 CSR 50-2.060(3) within ninety (90) calendar days of the spud date. A single thirty (30) calendar day extension period may be granted upon written request to the state geologist. If conversion is to take place, **submit** a permit modification *[must be submitted]* to the state geologist as detailed in 10 CSR 50-2.030(9) or 10 CSR 50-2.060(4) prior to conversion. The well will then be subject to all completion and location requirements for the type of well to which it is being converted.

*[(13)](12)* Permanent signage must be posted within ninety (90) calendar days of spud date at each well site indicating the well name,

well number, and API number. Stratigraphic test wells and non-commercial gas wells are exempt from signage posting.

*AUTHORITY: section 259.070, RSMo [Supp. 2015] 2016. Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. For intervention history, please consult the Code of State Regulations. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

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**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.055 Injection Wells, Mechanical Integrity Testing, and Well Stimulation Treatment.** The council is amending sections (1), (3), (4), (5), (6), (8), (10), (11), (12), (13), (14), and (15), removing section (9), adding a new section (11), and renumbering as needed.

*PURPOSE: This amendment clarifies that no fee is assessed for injection permit modifications, removes section (9) and incorporates that information into 10 CSR 50-2.040(7)(B)1.B., clarifies monitoring of pressure as a separate activity from mechanical integrity testing by moving the language to its own section, improves readability, removes repetitive language, and removes unnecessary language pursuant to Executive Order 17-03 and the Red Tape Reduction Initiative.*

(1) Prior to commencement of injection operations, the following conditions shall be met:

(A) Application for a permit to inject along with the **applicable** fee *[required]* pursuant to 10 CSR 50-1.050 has been submitted to the state geologist on forms provided by the department;

(B) The *[required]* operator license, bond, and approved completion or recompletion report are on file in the office of the state geologist; and

(3) Each application for permit to inject shall be submitted on a form provided by the department, along with the **applicable** fee *[required]* pursuant to 10 CSR 50-1.050, *[shall be]* completed in full, and *[be]* accompanied by—

(A) A map that shows the area of review for the proposed injection well and all area of review wells of public record, within a one-half- (½-) mile radius of the injection well, that penetrate the injection interval. *Descriptions of all wells that penetrate the injection interval in the area of review shall be included on a form provided by the department.*, with *[E]*each well *[in the area of review shall be]* uniquely marked or numbered;

**(B) Descriptions of all wells that penetrate the injection interval in the area of review included on the permit application form;**

*[(B)](C)* An electric log run to the surface or a log showing lithology or porosity of geologic strata encountered in the injection well, including an elevation reference. If such a log is unavailable, an electric log to surface or a log showing lithology or porosity of geological strata encountered in wells located within a one- (1-) mile radius of the subject well;

*[(C)](D)* A description of the fluid to be injected, the source of injected fluid, and compatibility of injected fluid with that of the receiving stratum, including total dissolved solid comparisons;

*[(D)](E)* An affidavit that notice has been provided in accordance with 10 CSR 50-2.055(4); and

*[(E)](F)* Information showing that injection into the proposed injection zone will be contained within the injection zone and will not initiate fractures through the overlying or underlying strata that could enable the fluid or formation fluid to enter underground sources of drinking water. This information *[may]* include the name, description, *[and]* depth of overlying and underlying confining strata for the injection zone., and **computed** *[F]*fracture gradients *[shall be computed and provided to the state geologist by the applicant].*

(4) Notice. The injection permit applicant shall provide notice utilizing the following procedure:

(A) *[The applicant shall n]*Notify each of the following parties whose acreage lies partially or fully within a one-half- (½-) mile radius of the project boundaries, by mailing or delivering a copy of the application and notice of intent on or before the date of publication described in subsection (4)(B) **to**:

1. Each operator or lessee of record;

2. Each owner of record of the mineral rights of unleased acreage; and

3. Each landowner within the project boundaries;

(B) *[The applicant shall p]*Publish at least one (1) notice of intent to operate an injection well in a newspaper of general circulation in the county in which the proposed injection well(s) is located. *The notice shall* and include the following:

1. Name and address of applicant;

2. Location of well(s);

3. Geologic name of proposed injection strata and approximate depth of injection zone;

4. Proposed maximum injection rate and pressure;

5. Description of the need for the injection well(s);

6. Approximate maximum number of injection wells that ultimately will be utilized in the project; and

7. Address of the office of the state geologist, where comments may be sent or additional information may be obtained;

(C) *[The applicant shall p]*Provide an affidavit of notice to include a copy of the newspaper publication and a list of parties notified according to subsection (4)(A); and

(D) A fifteen (15) calendar day written comment period *[shall]* begin on the date of publication. A record *[shall]* **will** be kept by the state geologist of all written comments received and the responses to these comments. If within this comment period the state geologist determines that a significant degree of public interest is expressed, or other factors indicate the need for a public hearing, the state geologist may order a hearing. Public notice of the hearing will be provided in a newspaper of general circulation in the county where the proposed injection well is located with a hearing date set for no sooner than thirty (30) calendar days after the date of notice. If no public hearing is ordered, the state geologist will process the application after the end of the fifteen (15) calendar day comment period and upon receipt of an affidavit of newspaper publication.

(5) Modifications.

(A) Modifications to the type or construction of the injection well including, but not limited to, an increase in injection rate or pressure

or an additional perforation or injection zone, neither of which is expressly authorized by the existing permit, *[shall]* require an application for a permit to inject to be filed along with the **applicable fee** *[required]* pursuant to 10 CSR 50-1.050, except as specified in subsection (5)(B) below.

(B) *[An operator shall not be required to file an application to modify any injection well permit but shall file with the state geologist a notice of permit modification on a form provided by the department]* **No fee will be assessed for an injection permit modification** when the operator seeks to add or delete additional sources of the fluid disposed into the well but will not exceed the maximum authorized injection rate and pressure.

(C) Each application for any modifications to the injection permit, including increasing pressure or rate and changing or adding injection strata, *[shall]* require the notice specified in section (4) of this regulation.

(6) Upon application for a permit to inject, the state geologist *[shall]* **will** review the application and, within fifteen (15) business days, determine if the application is in proper form and if the requirements of Chapter 259, RSMo, and implementing regulations are met. If the application is incomplete or lacking *[required]* information, forms, or fees, the state geologist *[shall]* **will** notify the operator and suspend the application process. When the *[required]* **missing** form, information, or fee is submitted by the operator and received by the state geologist, the fifteen (15) business day permit period will begin anew. If the state geologist has not received the missing or incomplete *[required]* application information or fee within thirty (30) days after notification of the operator, the application *[shall]* **will** be considered null and void and the operator must reapply by submitting a new application for a permit to inject, along with the *[required]* **associated** fee.

(A) If the state geologist finds that the application is in good form, that all requirements of the application have been met, and that Chapter 259, RSMo, and implementing regulations are being met, the state geologist *[shall]* **will** issue the permit.

(B) If the state geologist determines either that the application is not in proper form, that the operator failed to submit the applicable fees, or that Chapter 259, RSMo, and implementing regulations are not being met, *[the state geologist shall deny]* the permit **will be denied**.

(C) If the state geologist finds that injection at the proposed site would be an undue risk to the surface or subsurface environment, *[the state geologist shall deny]* the permit **will be denied**.

(8) A permit to inject shall not be transferred from one operator to another operator without approval of the state geologist. **To transfer any permit to inject to a new operator (transferee),** *[T]he current operator (transferor) [may] submit a request, on a form provided by the department,* to the state geologist *[a request to transfer any permit to inject to a new operator (transferee). The request shall be submitted on a form provided by the department]* no less than thirty (30) calendar days prior to the planned transfer. Any such request may be denied if the state geologist determines that the operator has not submitted all the *[required]* **necessary** information. The transfer of a permit to inject *[shall]* **will** follow the transfer procedures prescribed in 10 CSR 50-2.010(6)(A) through (C).

*[(9) For all injection well applications that require wellhead pressure to inject fluids, the operator shall inject the fluids through tubing under a packer set immediately above the uppermost perforation or openhole zone, except as specified in 10 CSR 50-2.040(7).]*

*[(10)](9)* Injection pressures. A maximum injection pressure for injection wells *[shall]* **will** be established by the state geologist so that the pressure in the injection zone during injection does not ini-

tiate new fractures or propagate existing fractures in the confining strata. The injection pressure also should not cause the injected fluid to migrate into an underground source of drinking water.

(A) The injection pressure determinations *[should be]* **shall be approved by the state geologist** based on one (1) of the following methods:

1. For injection of liquids, *[the state geologist shall approve]* injection pressures at 0.75 psig/foot based upon the depth to the midpoint of the perforations **or openhole interval** in the injection zone; or

2. For injection of steam or other gases, *[the state geologist shall approve]* injection pressures at 3.0 psig/foot based upon the depth to the midpoint of the perforations **or openhole interval** in the injection zone; or

3. *[The operator may submit p]* Pump pressure data **provided by the operator** that details the ability of the injection zone to tolerate the requested pressure; or

4. *[The operator may submit s]* Step-rate test data **provided by the operator** that details the ability of the injection zone to tolerate the requested pressure; or

5. *[The operator may submit h]* Historical injection pressures **provided by the operator** and/or other data deemed appropriate by the state geologist to demonstrate an appropriate injection pressure *[for approval by the state geologist]*.

(B) At least one (1) test must be performed within one thousand three hundred twenty feet (1320') of the proposed injection well, or as otherwise deemed appropriate by the state geologist. The data *[must]* **and interpretive report should** be submitted in the format *[required]* **requested** by the state geologist.

(C) Following approval by the state geologist of an initial maximum injection pressure, the well used to obtain the data in paragraph *[(10)](9)(A)* 3. or 4. above may be used as a reference well. Additional injection wells within one thousand three hundred twenty feet (1320') of the reference well may be approved at the same maximum injection pressure.

(D) The established maximum injection pressure shall not be exceeded. Exceedance of the maximum injection pressure may result in additional compliance monitoring *[as required by the state geologist]*. Modifications to increase a maximum injection pressure for injection wells *[shall]* **will** be made according to section (5) above.

*[(11)](10)* Following receipt of an approved permit to inject, the operator shall notify the state geologist regarding injection operations as follows:

(A) Immediately upon the commencement of injection operations, *[the applicant shall]* notify the state geologist of the date of commencement; and

(B) After permanent discontinuance of injection operations, *[the operator shall follow the provisions of 10 CSR 50-2.060 and shall]* notify the state geologist, within ninety (90) calendar days, of the date of the discontinuance and the reasons for discontinuance.

**(11) Monitoring. Following an initial mechanical integrity test in accordance with subsection (12)(A) below, once a month, the operator shall monitor and record, during actual injection, the pressure or fluid level in the annulus and any other information deemed necessary by the state geologist. An annual report of information logged will be submitted to the state geologist in accordance with 10 CSR 50-2.080.**

(12) Mechanical integrity. All new or newly converted injection wells shall *[be required to]* demonstrate mechanical integrity and meet the requirements of 10 CSR 50-2.090 and 10 CSR 50-2.100 before operation may begin. *All injection wells not permanently plugged must demonstrate mechanical integrity* and at least once every five (5) years. **The date for the mechanical integrity test will be mutually agreed upon by the operator's representative and the state geologist, with a minimum of five (5) business**

**days' notice prior to commencing the test.**

(A) Demonstration of mechanical integrity shall utilize at least one (1) of the following procedures:

1. Pressure test. **Conduct a pressure test in** [T]the annulus above the packer, or the injection casing in wells not equipped with a packer, [shall be pressure tested. The date for this test shall be mutually agreed upon by the operator's representative and a representative of the state geologist, with a minimum of five (5) business days' notice prior to the test. Test results shall be verified by the operator's representative. The test shall be conducted] in the following manner:

A. For newly completed or newly converted wells, the casing may be tested before perforating. **Apply** [A]a fluid pressure of one hundred ten percent (110%) of the approved pressure [shall be applied], but [shall be] no less than three hundred (300) psig. A well demonstrates mechanical integrity if, when pressurized, it does not lose more than ten percent (10%) of the tested pressure over a period of thirty (30) minutes;

B. **Pressure test** [W]wells constructed with tubing and a packer [shall be pressure tested with the packer in place.] **by applying** [A]a fluid pressure of one hundred ten percent (110%) of the approved pressure [shall be applied], but [shall be] no less than three hundred (300) psig. A well demonstrates mechanical integrity if, when pressurized, it does not lose more than ten percent (10%) of the tested pressure over a period of thirty (30) minutes;

C. For wells constructed with tubing and no packer, **set** a retrievable plug or packer [shall be set] immediately above the uppermost perforation or openhole [zone] interval. **Apply** [A]a fluid pressure of one hundred ten percent (110%) of the approved pressure [shall be applied], but [shall be] no less than three hundred (300) psig. A well demonstrates mechanical integrity if, when pressurized, it does not lose more than ten percent (10%) of the tested pressure over a period of thirty (30) minutes; and

D. For wells constructed with tubing and no packer, a method of pressure testing known as fluid depression may be conducted with prior approval and under guidelines established by the state geologist. **Depress** [T]the fluid in the well [shall be depressed] with gas pressure to a point in the wellbore immediately above the perforations or openhole interval. The minimum calculated pressure [required] necessary to depress the fluid in the wellbore shall be no less than fifty (50) psig. A well demonstrates mechanical integrity if, when pressurized, it does not lose more than ten percent (10%) of the tested pressure over a period of thirty (30) minutes;

2. Alternative tests. **With prior approval by the state geologist**, [A]alternative test methods [approved by the state geologist] including, but not limited to, temperature surveys, tracer surveys, or noise logs, may be used to demonstrate mechanical integrity if conditions are appropriate. *The date for this test shall be mutually agreed upon by the operator's representative and a representative of the state geologist, with notice provided a minimum of five (5) business days prior to the test. Test results shall be verified by the operator's representative and shall be interpreted as specified in state geologist-approved procedures.*].

[(B) *Monitoring. Following an initial test in accordance with subsection (12)(A) above, once a month, the operator shall monitor and record, during actual injection, the pressure or fluid level in the annulus and any other information deemed necessary by the state geologist. An annual report of information logged shall be submitted to the state geologist in accordance with 10 CSR 50-2.080.*

[(C)](B) [The operator shall notify the office of the state geologist at least five (5) business days prior to commencing a mechanical integrity test.] Results of this test **and an interpretive report** must be [reported] submitted on the appropriate form to the state geologist within thirty (30) calendar days of completion of the test. The state geologist [shall] **will** inform the operator of a satisfactory or unsatisfactory demonstration of mechanical integrity

within fifteen (15) business days.

(13) If a well cannot demonstrate mechanical integrity, or if other conditions develop that threaten or could threaten the quality of surface or groundwater, the operator shall cease operation of the well, [shall] notify the state geologist within twenty-four (24) hours with details as to the nature of the problem, and [shall] propose a corrective action plan in writing within five (5) business days. The operator shall have no more than sixty (60) calendar days from the date of initial failure in which to perform one (1) of the following:

(14) Following corrective action [required by] **performed pursuant to** section (13), the state geologist may require additional testing or monitoring. If the state geologist has approved the use of any chemical sealant or other mechanical device to isolate the leak before use, then the following requirements apply:

(A) Injection pressure into the well [shall] **does** not exceed the maximum mechanical integrity test pressure; and

(B) The well [shall] demonstrates mechanical integrity on an annual basis for the duration the well is completed in this manner.

(15) The state geologist or an authorized representative [shall have the authority to] **may** sample injected fluids at any time during injection operations.

*AUTHORITY: sections 259.060, 259.070, 259.080, and 259.140, [RSMo 2000, and sections 259.070 and 259.080,] RSMo [Supp. 2015] 2016. Original rule filed Sept. 15, 2015, effective March 30, 2016. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with Department of Natural Resources' Geological Survey Program attention to Kimberly Ward at PO Box 250, III Fairgrounds Rd., Rolla, MO 65402 or via email to kimberly.ward@dnr.mo.gov. To be considered, comments must be received by the close of the public comment period on September 13, 2018 at 5:00 p.m. A public hearing is scheduled for 10 a.m., September 6, 2018, Mozarkite Conference Room, Missouri Geological Survey, III Fairgrounds Road, Rolla, MO 65401.*

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.060 Shut-in Wells, Plugging, and Conversion to Water Well.** The council is amending the rule purpose and sections (1), (2), (3), and (4).

*PURPOSE: This amendment improves readability by removing unnecessary restrictive language and clarifies plugging methodology to meet industry standards.*

*PURPOSE: This rule provides for the protection of both surface water and groundwater. Drilling muds, oil, and water recovered from drilling or testing operations [must] **should** be disposed of so that pollution of surface soil, ponds, and streams is avoided. Underground sources of drinking water strata are protected by casing*

set below the deepest strata penetrated that might contain underground sources of drinking water. Dry holes [must] **should** be plugged in a manner that subsurface salt water or mineralized water will be confined to the stratum in which it occurs. Similarly, each oil or gas stratum penetrated by a well [must] **should** be permanently sealed when abandoned to prevent contamination of underground sources of drinking water and also to prevent damage by water of any oil or gas stratum capable of producing in paying quantities. In certain logging procedures, a radioactive source (in a probe or sonde) is lowered into the borehole to provide certain subsurface data useful in exploration for oil and gas. Should this radioactive source contained in a logging tool be lost in the hole, certain procedures are prescribed to prevent the accidental or intentional mechanical disintegration of the radioactive source. Further, there are provisions for marking the well site permanently as a warning that a radioactive source has been abandoned in the well.

(1) Shut-in wells.

(A) Shut-in status. A well [shall be] is considered shut in whenever it has not been operated for ninety (90) calendar days or more. The shut-in status shall not exceed ninety (90) calendar days. Prior to the expiration of the ninety (90) calendar days shut-in status, the operator of that well shall perform one (1) of the following:

1. Return the well to operation and notify the state geologist on the monthly well status report per 10 CSR 50-2.080(2); or
2. Plug the well; or
3. Petition the state geologist for an extension and propose an end date for the shut-in status.

(B) Approval of shut-in status extensions.

1. [No well shall have its shut-in status extended as described in subsection (1)(A) unless first approved by the state geologist. Extension to the shut-in status shall not exceed] **The state geologist may approve an extension of a well's shut-in status not to exceed** one (1) year. If the operation of any shut-in well is not resumed within one (1) year after the extension has been approved, the well [shall] **will** be deemed [an] abandoned [well], and the operator shall plug the well per these rules. Upon application to the state geologist before the expiration of the one- (1-) year period, and for good cause shown, the period may be extended by the state geologist for one (1) year upon compliance with the provisions of paragraph (1)(B)2. of this section. Additional one- (1-) year extensions may be granted by the state geologist. The total time of such consecutive extensions shall not exceed ten (10) years.

2. Any well in continuous shut-in status must demonstrate mechanical integrity at least once every five (5) years pursuant to procedures in 10 CSR 50-2.055.

(C) Right of denial. Any shut-in well [shall be subject to inspection] **may be inspected** by the state geologist to determine whether its shut-in status could cause contamination of underground sources of drinking water. If necessary, **the state geologist may deny** extensions of shut-in status for a well [may be denied by the state geologist,] and **require** the well [may be required to] be plugged, repaired, or demonstrate mechanical integrity [according to the direction of the state geologist and] in accordance with these regulations.

(2) Shut-off test. Whenever it appears to the state geologist that any water from any well is migrating or infiltrating into oil-bearing or gas-bearing strata or that any detrimental substances are infiltrating any underground sources of drinking water, the state geologist may require a shut-off test, to be conducted at the expense of the operator of that well. The time and procedure for the taking of the test [shall] **will** be fixed by the state geologist. Reasonable notice of the test [shall] **will** be given to the owner or operator. The owner or operator of any abandoned oil or gas well from which water is migrating or infiltrating into any oil-bearing or gas-bearing strata, or from which any detrimental substances are infiltrating any underground sources of drinking water, shall immediately plug or repair the well in accor-

dance with section (3) below and shall prevent the infiltration of oil, gas, produced water, or other detrimental substances into underground sources of drinking water strata.

(3) Plugging Requirements.

(A) Abandoned Wells.

1. An abandoned well shall be plugged or addressed as directed by the state geologist as provided in these rules. Plugging an abandoned well [shall] includes the removal of any rig, derrick, or other operating structure, and all abutments and appurtenances used in the operation of such well, from the land upon which the well was operated, and [shall] includes grading the surface of the soil in such manner as to leave the land, as nearly as practicable, in the same condition after the removal of such structures, equipment, and appurtenances as it was before such structures and abutments were placed thereon, unless the owner of the land and the plugging party have entered into an agreement providing otherwise.

2. When the state geologist investigates and determines that a well has been abandoned, as provided in these rules, the state geologist may issue an order directing the operator, owner, or any person who without authorization tampers with or removes surface equipment or downhole equipment from the abandoned well to plug the well as directed by the state geologist. If the person to whom the order is issued fails to comply with any such order that has become final under 10 CSR 50-1.040, the person to whom the order is issued shall be deemed to have abandoned any and all property interests in the well and any rig, derrick, or other operating structure, and all abutments and appurtenances.

3. In addition to any other remedy provided in Chapter 259, RSMo, or implementing regulations, if the state geologist determines that a well has been abandoned, the department or the council may request that the attorney general institute a civil proceeding to request appropriate injunctive relief, civil penalties, or other appropriate remedy, as provided in sections 259.200 and 259.210, RSMo.

4. If the state geologist determines that a well has been abandoned, the department in accordance with section 259.070.5(7), RSMo, may plug such well, or cause it to be plugged as to prevent contamination or danger of contamination of any waters of the state or loss of underground sources of drinking water, and may remediate contamination from the well. Plugging or remediation may include the collection, removal, salvage, and disposition of abandoned operating structures or other equipment. The cost of the plugging or remediation [shall] **will** be paid by the Oil and Gas Remedial Fund, as provided in section 259.190, RSMo.

(B) Notice.

1. Before plugging any well the operator shall file with the state geologist a notice of intent to plug on a form provided by the department. The notice [shall] **will** include the details of the proposed plugging procedure and description of any logging tool containing a radioactive source being abandoned (see subsection (E) of this section for radioactive source abandonment procedure). The proposed plugging procedure shall be approved by the state geologist prior to commencement of plugging activities.

2. The operator shall notify the state geologist no later than five (5) business days before the plugging.

3. Exceptions.

A. If necessary to avoid rig downtime, oral permission to plug dry holes may be obtained by informing the state geologist of proposed plugging procedures, in which case a notice of intent to plug form must be submitted within three (3) business days of plugging.

B. In lieu of prior notice and approval by the state geologist as detailed in paragraph (3)(B)1. of this rule, the operator may elect to plug a well from total depth to the surface with cement slurry, being no less than fifteen (15) pounds per gallon density, **emplaced via a tremie pipe**.

C. If an emergency situation exists, the operator shall orally notify and present the plugging proposal to the state geologist for

approval.

(C) Plugging methods.

1. Before any well is considered plugged, all oil, gas, and water shall be permanently confined in the separate strata originally containing them.

2. *[Wells shall be plugged]* **Plug wells** by emplacing cement **via a tremie pipe** from twenty-five feet (25') below the bottom of the stratum to a point no less than twenty-five feet (25') above the top of the stratum that contains oil or gas, or from which oil or gas has been produced, or that has been used for injection.

3. **Cut off** *[C]* casing in plugged wells, including horizontal wells, *[shall be cut off]* at least three feet (3') below ground surface at the wellhead.

4. Horizontal wells. **Fill** *[E]* each horizontal well *[shall be filled]* with a cement plug from total depth of the deepest producing horizon to the surface.

5. Stratigraphic test wells. **Fill** *[E]* each stratigraphic test well *[shall be filled]* with a cement plug from total depth to within three feet (3') of the surface. All stratigraphic test wells shall be plugged after being used as soon as is reasonably practicable. *However, such wells shall not remain unplugged for a period of more but no later than thirty (30) calendar days after the drilling of the well.*

6. Seismic shot holes. **Plug** *[A]* all seismic shot holes *[shall be plugged]* upon completion of the shooting. Such holes shall not remain unplugged for a period of more than thirty (30) calendar days after the drilling of the hole.

7. If circulation is lost in the drilling of any hole and circulation cannot be regained, **place** a cement plug *[shall be placed]* above the zone of lost circulation to the surface.

8. Alternative plugging methods may be authorized by the state geologist when geologic conditions or conditions in the casing or wellbore warrant.

(D) Reporting. The operator shall submit a plugging record **completed in full on a form provided by the department** along with the **applicable fee** *[required]* pursuant to 10 CSR 50-1.050 to the state geologist within thirty (30) calendar days after completion of plugging activities. *[The report shall be made on the form provided by the department and shall be completed in full.]*

(E) Radioactive source.

1. If a radioactive source *[has been lost and]* cannot be retrieved from a hole, *the person, firm, or corporation proposing the abandonment]* and is **proposed to be abandoned in the well, the operator** shall notify the state geologist. Wells in which radioactive sources are being abandoned shall be mechanically equipped so as to prevent the accidental or intentional mechanical disintegration of the radioactive source.

A. Sources being abandoned in a well shall be covered with no less than a fifty *[feet] foot* (50') standard-red-dyed cement plug *[on top of which]* with a whipstock *[shall be]* set **on top of the plug**. The dye is to alert the re-entry operator prior to encountering the source.

B. In wells where a radioactive logging source has been cemented in place behind a casing string and above total depth, upon abandonment a standard-red-dyed cement plug should be placed opposite the abandoned source and extend fifty feet (50') above and fifty feet (50') below with a whipstock placed on top of the plug.

C. If the operator finds after expending a reasonable effort it is not possible to abandon the source as prescribed in subparagraph (3)(E)1.A. or B. of this rule, the operator shall seek the state geologist's approval to cease efforts in this direction and obtain approval for an alternate abandonment procedure.

2. Upon permanent plugging of any well in which a radioactive source is abandoned, and after removal of the wellhead, a permanent plaque is to be attached to the top of the casing left in the hole in a manner that re-entry cannot be accomplished without disturbing the plaque. This plaque would serve as a visual warning to any person re-entering the hole that a radioactive source has been abandoned in

place in the well. The plaque should contain the trefoil radiation symbol with a radioactive warning and should be constructed of a long-lasting material such as monel, stainless steel, or brass.

(F) Monies deposited in the Oil and Gas Remedial Fund may be used by the department to plug those oil, gas, and injection wells that have been abandoned and have not been plugged according to these rules, subject to the following guidelines:

1. Wells covered by a forfeited bond *[shall]* **will** receive first priority; and

2. Other wells *[shall]* **will** receive secondary priority on the basis of their potential for groundwater contamination or other damage in the order recommended by the state geologist.

(4) Conversion to domestic water supply well. *[A well conversion agreement]* **Within thirty (30) calendar days after conversion of a well to a domestic water supply well, submit an application on a form** *[must be submitted for conversion of a well under these regulations to a domestic water supply well and must be submitted within thirty (30) calendar days after conversion of the well]* **provided by the department**. The well must have been reconstructed, or, for a stratigraphic test well, *[must]* have been reconstructed, as a water well by a Missouri permitted water well installation contractor and *[must]* meet minimum water well construction standards as set forth in the Water Well Drillers' Act, Chapter 256, RSMo, and the implementing Missouri Well Construction rules 10 CSR 23. A well registration or certification, as appropriate, per those rules shall be approved before the state geologist will approve the conversion agreement and release the applicable bond.

*AUTHORITY: sections 259.070 and 259.190, RSMo [Supp. 2015] 2016. Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. For intervening history, please consult the Code of State Regulations. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with Department of Natural Resources' Geological Survey Program attention to Kimberly Ward at PO Box 250, III Fairgrounds Rd., Rolla, MO 65402 or via email to kimberly.ward@dnr.mo.gov. To be considered, comments must be received by the close of the public comment period on September 13, 2018 at 5:00 p.m. A public hearing is scheduled for 10 a.m., September 6, 2018, Mozarkite Conference Room, Missouri Geological Survey, III Fairgrounds Road, Rolla, MO 65401.*

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.065 Operations.** The council is amending sections (1) and (3) and removing and renumbering section (2).

*PURPOSE: This amendment removes the requirement for gas metering, consolidates tank signage requirements by incorporating language from 10 CSR 50-2.010(6)(A)7., improves readability, and removes unnecessary language pursuant to Executive Order 17-03 and the Red Tape Reduction Initiative.*

(1) Tank identification. All oil tanks, tank batteries, tanks used for produced water collection or disposal, and tanks used for oil-sediment treatment or storage shall be identified by a sign posted on, or not more than fifty feet (50') from, the tank or tank battery. *[The sign shall be of durable construction and shall be large enough to be legible under normal conditions at a distance of fifty feet (50').]* **Within ninety (90) days of any transfer, the transferee shall change the tank battery identification sign to include the new operator information.** The sign shall *[identify]*—

(A) **Identify** *[N]*name, license number, and contact information of the operator;

(B) **Identify** *[N]*name of the lease or unit being served by the tank;

(C) **Identify** *[L]*location of the tank, including section, township, range, and county; *[and]*

(D) **Identify** *[C]*contents of the tank*[/]*;

(E) **Be of durable construction; and**

(F) **Be large enough to be legible under normal conditions at a distance of fifty feet (50').**

*[(2) Gas to be metered. All gas, when produced or sold, shall be metered with a meter of sufficient capacity. Meters shall not be required for gas produced and used on site for development purposes, production unit operations, primary dwellings, or non-commercial gas wells.*

*(A) Each party who owns, maintains, or operates the metering device used to record gas sales from each well or production unit in a gas field shall, at a minimum, test and calibrate the metering device on an annual basis and retain the record of the testing and calibration for at least two (2) years. Each party shall also retain, for at least two (2) years, the original field record consisting of meter charts, electronic records, records of gas purchases, or other approved method. All information retained shall be made available to the state geologist upon request.*

*(B) By-passes shall not be connected around meters in a manner that will permit the improper taking of gas.]*

*[(3)](2) Spill Notification. Each operator, immediately upon discovery or knowledge of any spill or release, [shall] will take immediate action in accordance with the Spill Bill, section 260.500 to 260.550, RSMo, and the implementing regulations in 10 CSR 24. This does not alter responsible parties' obligations under any other applicable law.*

*AUTHORITY: section 259.060[,]* **and 259.070, [RSMo 2000, and section 259.070,] RSMo [Supp. 2015] 2016. Original rule filed Sept. 15, 2015, effective March 30, 2016. Amended: Filed June 27, 2018.**

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

**NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS:** *Anyone may file a statement in support of or in opposition to this proposed amendment with Department of Natural Resources' Geological Survey Program attention to Kimberly Ward at PO Box 250, III Fairgrounds Rd., Rolla, MO 65402 or via email to kimberly.ward@dnr.mo.gov. To be considered, comments must be received by the close of the public comment period on September 13, 2018 at 5:00 p.m. A public hearing is scheduled for 10 a.m., September 6, 2018, Mozarkite Conference Room, Missouri Geological Survey, III Fairgrounds Road, Rolla, MO 65401.*

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.080 Record Retention and Reporting.** The council is amending sections (1), (2), and (3).

*PURPOSE: This amendment consolidates all record retention and reporting requirements previously contained in various rules within 10 CSR 50, removes gas metering reporting requirements, removes repetitive language, improves readability, clarifies requirements, and removes unnecessary language pursuant to Executive Order 17-03 and the Red Tape Reduction Initiative.*

(1) Record Retention.

(A) **For all wells, each operator shall maintain legible documentation of the cementing operations across all strata and provide this documentation to the state geologist upon request. The documentation may consist of invoices, job logs, job descriptions, or other similar service company reports.**

(B) Each operator of an injection well shall keep current, accurate, **and legible** records of the amount and kind of fluid injected into the injection well and *[shall]* preserve these records for five (5) years.

(C) **Each operator of an observation well shall keep current, accurate, and legible records of the data collected and preserve these records for five (5) years.**

(2) Monthly Reporting. **Each operator shall prepare in full the following monthly reports on a form provided by the department and submit to the state geologist no later than forty-five (45) calendar days after the end of each calendar month:**

(A) Well status of each open well in a unit *[shall be reported by each operator monthly on a form provided by the department. The report shall be prepared in full and submitted to the state geologist no later than forty-five (45) calendar days after the end of each calendar month.]*;

(B) Well production *[shall be reported by the first purchaser of the oil or gas monthly on a form provided by the department. The report shall be prepared in full and submitted to the state geologist no later than forty-five (45) calendar days after the end of each calendar month. Production], which* may be presented for each unit unless requested otherwise by the state geologist or the council*[/]*;

(C) Disposal of produced water *[shall be reported by each operator monthly on a form provided by the department. The report shall be prepared in full and submitted to the state geologist no later than forty-five (45) calendar days after the end of each calendar month. The report must include], including* the amount, type, and method of disposal of all fluids produced from oil wells, gas wells, or underground gas storage reservoirs*[/]*; **and**

*[(D) Each party who owns, maintains, or operates the metering device used to record gas produced from each unit or well in any gas field shall file a monthly volume report showing the amount of gas actually metered on each unit, and may be directed by the state geologist to file a volume report showing the amount of gas actually metered for each well for a specified time period. The monthly volume report shall be prepared in full on a form provided by the department and submitted to the state geologist no later than forty-five (45) calendar days after the end of each calendar month.]*

*[(E)](D) The [required] monthly gas well status and production reports may be waived by the state geologist upon application by the operator of the well when production from the well is for the owner's sole and non-commercial use.*

(3) Annual reporting. **Each operator shall submit an annual report completed in full on a form provided by the department for the following:**

(A) *[Each operator of an injection well shall submit a]An annual injection well monitoring report [on a form provided by the department. The report] for the previous calendar year [shall be], submitted to the state geologist on or before March 1 of the following year[.];*

(B) *[Each operator shall submit annually on a form provided by the department a]A complete inventory report of all open wells as of December 31[. The report shall be], submitted to the state geologist on or before January 31[.]; and*

(C) *[Each operator shall submit a]An annual [bonding] financial assurance report[, on a form provided by the department,] providing documentation of sufficient [bonding] financial assurance for all open wells, [as required by] pursuant to Chapter 259, RSMo, and implementing regulations[. The report shall be], submitted to the state geologist on or before January 31 of each year and [shall include] including a signed and notarized statement from any applicable surety or issuer of a letter of credit or certificate of deposit documenting that the referenced [bonds] instruments are valid and in full force.*

*AUTHORITY: section 259.070, RSMo [Supp. 2015] 2016. Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. For intervening history, please consult the Code of State Regulations. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

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**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 50—Oil and Gas Council  
Chapter 2—Oil and Gas Drilling and Production**

**PROPOSED AMENDMENT**

**10 CSR 50-2.090 Disposal of Fluids by Injection.** The council is removing section (1), amending section (3), and renumbering as needed.

*PURPOSE: This amendment removes repetitive requirements, clarifies requirements, and removes unnecessary language pursuant to Executive Order 17-03 and the Red Tape Reduction Initiative.*

*[(1) Prior to the disposal of fluids by injection, an application for permit to inject must be approved by the state geologist as provided in 10 CSR 50-2.055.]*

*[(2)](1) Other than within the original production strata, disposal of produced fluid from an oil or gas operation is prohibited into an oil or gas reservoir, a potential oil or gas reservoir, or an underground*

*source of drinking water unless that drinking water source has been exempted, or unless otherwise approved by the state geologist.*

*[(3)](2) [Disposal wells] An injection well for the disposal of fluids must be located a minimum of one hundred sixty-five feet (165') from a unit boundary.*

*AUTHORITY: section 259.070, RSMo [Supp. 2015] 2016. Original rule filed Oct. 11, 1966, effective Oct. 21, 1966. For intervening history, please consult the Code of State Regulations. Amended: Filed June 27, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

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**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 80—Solid Waste Management  
Chapter 3—[Sanitary Landfill] Solid Waste Disposal  
Areas-Sanitary, Demolition, and Special Waste Landfills**

**PROPOSED AMENDMENT**

**10 CSR 80-3.010 Design and Operation.** The department is amending the chapter title, rule purpose, sections (1)–(9), sections (11)–(20), deleting sections (3), (10), and (14), adding new sections (3), (10), (14), (21), and (22), and renumbering as needed.

*PURPOSE: The Solid Waste Management Program is proposing to combine 10 CSR 80-3.010 Sanitary Landfill and 10 CSR 80-4.010 Demolition Landfill. The rulemaking for rescinding 10 CSR 80-4.010 will need to run concurrently with the rulemaking amendment to 10 CSR 80-3.010 to ensure there is not a regulatory conflict. The Solid Waste Management Program believes that the consolidation of 10 CSR 80-3.010 and 10 CSR 80-4.010 will not significantly affect the ability to protect human health and the environment.*

*PURPOSE: This rule pertains to the design and operation of [a] solid waste disposal areas, specifically sanitary [landfill.], demolition, and special waste landfills. This rule addresses the siting, groundwater monitoring, gas monitoring, liner, and cover design, seismic design, and the design and operation of leachate collection systems and methane recovery systems. This rule incorporates American Society for Testing and Materials International standards, and the Environmental Protection Agency by reference and sets forth additional state standards.*

*[Editor's Note: The secretary of state has determined that the publication of this rule in its entirety would be unduly cumbersome or expensive. The entire text of the material referenced has been filed with the secretary of state. This material may be found at the Office of the Secretary of State or at the headquarters of the agency and is available to any*

*interested person at a cost established by state law.]*

**PUBLISHER'S NOTE:** *The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.*

(1) General Provisions.

(A) This rule is intended to provide for sanitary, **demolition, and special waste** landfill [area] operations that will have minimal impact on the environment. The rule sets forth requirements and the method of satisfactory compliance to ensure that the design, construction, and operation of [sanitary] these landfills will protect the [public] human health[, prevent nuisances] and meet applicable environmental standards. [The requirement subsections contained in this rule delineate minimum levels of performance required of any sanitary landfill operation. The satisfactory compliance subsections are presented as the authorized methods by which the objectives of the requirements can be realized. The satisfactory compliance subsections are based on the practice of sanitary landfilling municipal solid waste. If techniques other than those listed as satisfactory compliance in design or operation are used, it is the obligation of the sanitary] If techniques other than those listed are used, it is the obligation of the landfill owner/operator to demonstrate to the department in advance that the techniques to be employed will satisfy the requirements. Procedures for the techniques shall be submitted to the department in writing and approved by the department in writing prior to being employed. Notwithstanding any other provision of these rules, when it is found necessary [to meet objectives of the requirement subsections], the department may require by permit amendment changes in design and/or operation [as the condition warrants.] to protect human health and the environment. The department may require changes in design, operation, or maintenance of any operating or closed landfill to meet the objectives of the subsections of this chapter.

[(B) Owners/operators of sanitary landfills that close after October 9, 1991 and prior to October 9, 1993, and do not apply the final cover and establish vegetation on the sanitary landfill within one hundred eighty (180) days of last receipt of waste, or an alternative time frame negotiated with the department, are subject to all the requirements of this rule.

(C) Sanitary landfills not in compliance with the requirements of this chapter and of 10 CSR 80-2 are considered to be open dumps, which are prohibited by state law.]

(B) This rule applies to new sanitary, demolition, and special waste landfill construction and operating permits issued on or after the effective date of this rule and those facilities in operation on the effective date of this rule. Prior to January 1, 2020, all operating sanitary, demolition, and special waste landfills shall demonstrate compliance with 10 CSR 80-3.010. Construction and operation of landfills shall be conducted in accordance with the engineering plans and specifications approved by the department. Approved permit documents shall be available on site per section (20). Notwithstanding any other provision of these rules, when it is found necessary, the department may require by permit amendment changes in design and/or operation to protect human health and the environment.

(C) The standards set forth in ASTM, ASTM method D422-63(2007), 2007, ASTM Test D2487-11, and ASTM D6391-11 Standard Test Method, 2011, ASTM D-5084-16, 2016, ASTM D1140-17 and ASTM method D4318-17, 2017, as published by ASTM International, West Conshohocken, PA 19428, are incor-

porated by reference. The standards set forth in the Methods Innovation Rule, 2005, and Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, 2009 as published by the EPA, Washington, D. C. 20004. The standards set forth in the Engineer Manual 1110-2-1906, as published by the Department of the Army Office of the Chief Engineers, Washington, D. C. 20314. This rule does not incorporate any subsequent amendments or additions.

(2) Solid Wastes Accepted and Excluded.

[(A) Requirement. Only the following solid wastes shall be accepted for disposal in a sanitary landfill: municipal waste; bulky waste; demolition and construction wastes; brush and wood wastes; cut, chipped or shredded tires as defined in 10 CSR 80-8; soil; rock; concrete; related inert solids relatively insoluble in water; and incinerator and air pollution control residues generated from facilities exempted under 10 CSR 80-2.020(9)(A)2.

[(B)](A) [Satisfactory Compliance—Design.] Acceptable Wastes. To determine whether a waste may be accepted for disposal, the landfill owner/operator shall consider the landfill design, material, and chemical properties of the landfill liner and environmental control systems, the quantity of the waste, the physical and chemical characteristics of the waste, the equipment and operational procedures to be utilized, the safety of the landfill employees and the general public using the landfill, and the protection of human health and the environment.

1. The landfill's design and operating plans submitted to the department for approval shall specify the following:

A. The [plans shall specify the] types of waste to be accepted for disposal;

B. The handling and disposal procedures for each type of waste; and

C. The procedures to be used to review and approve special waste disposal requests at a sanitary landfill[.], determine when laboratory testing of special waste will be required, determine whether special handling of the waste may be required, and inspect the waste upon arrival at the landfill for disposal.

[(C) Satisfactory Compliance—Operations.

1. Certain bulky solid wastes, such as automobile bodies and furniture shall be crushed on solid ground and then pushed onto the working face near the bottom of the cell. Other bulky items, such as demolition wastes, tree stumps and large timbers shall be pushed onto the working face near the bottom of the cell. Bulky waste shall be excluded from the first layer of waste placed above a composite liner to ensure that the integrity of the liner and leachate collection system has been maintained.

2. Dead animals shall be placed on the working face with other municipal solid wastes and covered immediately with solid waste or soil.

[3].2. [The d]Disposal of special wastes which have been approved in [the] a sanitary landfill's construction permit shall be conducted in accordance with the approved design and operating plans [plus] along with any additional procedures determined by the department [as] to be necessary to protect human health and the environment.

[4].3. For [the disposal of special wastes not specifically approved in the construction permit,] each special waste accepted for disposal:

A. The landfill owner/operator shall require the waste generator to complete a special waste disposal request form [shall be completed] provided by the [generator of the waste and the operator of the sanitary landfill] department;

B. The landfill owner/operator shall require the waste generator to provide all information necessary to describe the source and physical and chemical characteristics of the special waste, including laboratory test results on representative samples, prior

to accepting the material for disposal. The information shall be attached to the request form;

C. The form shall be signed by the waste generator and the owner/operator of the landfill prior to acceptance and disposal of the waste/; and

D. The completed request form and supporting information shall be retained on site in the [sanitary] landfill's operating record/. Neither a permit modification nor prior approval is required unless deemed necessary by the department due to the characteristics of the special waste.] in accordance with section (20).

4. The owner/operator shall inspect each load of special waste upon its arrival at the landfill for disposal.

5. To the extent practical, special waste shall be managed in a manner that minimizes the disruption of normal landfill operations.

6. The owner/operator shall ensure that each special waste is segregated from other waste with which it could be chemically incompatible.

7. If the landfill owner/operator anticipates accepting more than one (1) load of a specific type of special waste from the same source in a relatively short period of time, or the waste will be accepted from the same source on a routine, ongoing basis, only one special waste disposal request form is required. However, if laboratory testing of the waste was initially required, the owner/operator must obtain yearly confirmation through testing or other documentation that the contaminant levels of concern have not increased or new contaminants of concern have not emerged. Should test results change a new special waste disposal request form shall be completed and kept on file.

8. Any special waste that requires handling procedures significantly different from typical municipal solid waste shall be identified in the landfill operating manual and handled accordingly. The department reserves the right to require revisions to the landfill operating manual and landfill operations for special waste that may adversely affect the health and safety of landfill personnel or may be extremely difficult to handle.

9. Waste generated from the clean-up of a former manufactured gas plant (FMGP) site is considered to be a special waste. Prior to accepting FMGP waste for disposal, the landfill owner/operator shall have representative specimens of the waste tested using the SW-846 test method 1311 toxicity characteristic leaching procedure (TCLP), Waste Management System: Testing and Monitoring Activities: Final Rule: Methods Innovation Rule (MIR) 2005. The waste shall not be accepted for disposal unless the concentrations of the following contaminants are below the regulatory levels listed in 40 CFR 261.24(b), Table 1:

A. All metals listed in Table 1, with the exception of barium;

B. Cresol, o-cresol, m-cresol, and p-cresol; and

C. Benzene.

10. Bulky waste and other waste that is accepted at the landfill and has the potential to puncture the membrane liner shall be excluded from the first layer of waste placed above a composite liner.

11. Large quantities of containerized liquids shall be solidified prior to disposal at a sanitary landfill. Bulk containerized or non-containerized liquid waste is banned from being placed in a sanitary landfill unless—

A. The waste is household waste other than septic waste; or

B. The waste is leachate or gas condensate generated within the permitted boundary and is placed in the on-site sanitary landfill designed with a composite liner and leachate collection system as described in this rule, and the facility has departmental approval to recirculate leachate or gas condensate.

(A) Requirement. The following are excluded from disposal:

1. Regulated quantities of hazardous waste;

2. Radioactive materials as follows:

A. The tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content as defined in the Atomic Energy Act of 1954, 42 U.S.C. section 2014(e)(2)(1996);

B. Any radioactively-contaminated material used in or resulting from the cleanup of radioactively-contaminated sites;

C. Any byproduct, source or special nuclear material regulated by the Atomic Energy Act of 1954;]

[D.]12. Radioactive material used in or resulting from medical processes or liquid radioactive material[, unless] may be accepted if the material has a half-life of less than thirty (30) days;

[E.]13. Naturally Occurring Radioactive Material (NORM) [except] may be accepted with prior written approval from the [Missouri Department of Natural Resources] department;

[F.]14. [Any a]Accelerator-produced radioisotopes[, unless the material has] with a half-life of less than thirty (30) days may be accepted;

[G.]15. Smoke detectors, electron tubes, luminous wristwatches and clocks, luminous lock illuminators, luminous automobile shift quadrants, luminous marine compasses and luminous thermostat dials and pointers in quantities [greater] less than ten (10) items from any single source may be accepted;

[H. "Low-level radioactive waste" as defined in section 260.700, RSMo as radioactive waste that is not classified as high-level radioactive waste and that is class A, B, or C low-level radioactive waste as defined in 10 CFR 61.55, as that section existed on January 26, 1983. "Low-level radioactive waste" or "waste" does not include any such radioactive waste that is owned or generated by the United States Department of Energy; by the United States Navy as a result of the decommissioning of its vessels, or as a result of any research, development, testing or production of any atomic weapon; and

1. Any greater-than-class-C radioactive waste;

3. Explosives;

4. Regulated quantities of polychlorinated biphenyls (PCBs);

5. Bulk liquids;

6. Highly flammable or volatile substances;

7. Septic tank pumpings;

8. Major appliances;

9. Waste oil;

10. Lead-acid batteries;

11. Waste tires as provided by 10 CSR 80-8.020;

12. Yard waste; and

13. Infectious waste as provided by 10 CSR 80-7.010.]

16. For a demolition landfill, the owner/operator shall prominently display a sign at the entrance of the landfill that lists the wastes that are approved for acceptance, in accordance with this rule and the landfill's approved operations plan.

(B) [Satisfactory Compliance—Design] Excluded Wastes.

1. [In consultation with] Any wastes not specifically listed in a proposed permit or a modification to an existing permit and approved by the department[, the applicant shall determine what wastes are to be accepted and shall identify them in the plan and the application for a construction permit.] are excluded from disposal. The [criteria used to determine whether the waste can be accepted] owner/operator shall [include] describe in the [design] operating plan of the [landfill, the physical and chemical characteristics of the wastes, the quantity of the wastes, and the proposed operating procedures.

[(3) Solid Waste Excluded.

2. *The plans shall specify the operating] sanitary, demolition, or special waste landfills the procedures for screening and [removal of wastes which are excluded from disposal according to subsection (3)(A) of this rule. Operating procedures for the screening and removal of excluded wastes shall include] removing excluded wastes, including but not limited to:*

A. At a minimum, random inspections of incoming waste loads unless the owner/operator takes other steps to ensure that incoming solid wastes do not contain wastes excluded from disposal at *[sanitary] the landfill/s;*

B. Records of any load inspections; and

C. *[Training of facility] Procedures that will be implemented to train appropriate landfill personnel [to recognize unacceptable wastes; and*

D. *Immediate notification of the department if a] in the identification and proper handling of radioactive materials, regulated hazardous waste, [regulated PCB waste, or] infectious waste [is discovered at the facility], asbestos containing material, and other waste prohibited from disposal.*

*[(C) Satisfactory Compliance—Operations.]*

*[1.]2. [A sign with the following wording shall be displayed prominently] The owner/operator shall screen and inspect loads of incoming waste per the approved operations plan and notify the department immediately upon receiving any of the following types of excluded waste at the [site entrance.] landfill:*

A. *[“]Regulated hazardous waste[,];*

B. *Radioactive materials[, polychlorinated biphenyls (PCBs), bulk liquids,];*

C. **Regulated quantities of PCB;**

D. **Explosives;**

E. *[h]Highly flammable or volatile substances[, septic tank pumpings, major appliances, waste oil, lead-acid batteries, waste tires];*

F. **Any regulated asbestos containing material (RACM) that has been improperly transported to the site, such as [provided by 10 CSR 80-8, yard] RACM delivered to the landfill in improper packaging or containers, without proper shipment records, or RACM that has otherwise been transported in violation of the 40 CFR 61, Subpart M, National Emission Standard for Asbestos (NESHAP)(2004); or**

G. *Infectious waste[,].*

3. **For a sanitary landfill, the owner/operator shall prominently display a sign at the site entrance stating the following about excluded wastes: “Regulated hazardous waste, radioactive materials, polychlorinated biphenyls (PCBs), bulk liquids, highly flammable or volatile substances, septic tank pumpings, major appliances, waste oil, lead-acid batteries, whole scrap tires, yard waste, explosives, and regulated infectious waste are excluded from disposal.”**

*[2. The operating procedures for screening of wastes and for removal of wastes which are excluded from disposal according to subsection (3)(A) of this rule shall be implemented.*

3. **Bulk or non-containerized liquid waste shall not be placed in landfill unless—**

A. *The waste is household waste or other than septic waste; or*

B. *The waste is leachate or gas condensate derived from the sanitary landfill, and the sanitary landfill is designed with a composite liner and leachate collection system as described in sections (9) and (10). The owner/operator of sanitary landfill conducting recirculation shall submit a request for departmental approval to recirculate leachate or gas condensate.*

4. **Containers holding liquid waste may not be placed in a sanitary landfill unless—**

A. *The container is a small container similar in size to that normally found in household waste; or*

B. *The waste is household waste.]*

*[(4)](3) Site Selection.*

(A) *[Requirement. Site selection] Prior to submitting an application for a construction permit for a new sanitary, demolition, or special waste landfill or a horizontal expansion of an existing landfill, the owner shall perform an evaluation of the proposed site and surrounding area, and [utilization shall include] a study [and evaluation] of the geologic and hydrologic conditions [and soils at the proposed sanitary landfill and an evaluation of the environmental effect upon the projected use of the completed sanitary landfill. Owners/operators] at that site location. Applications for a landfill construction permit received on or after the effective date of this rule shall document compliance with all applicable siting restriction/s and shall submit this documentation to the department by April 9, 1994, for existing sanitary landfills or prior to receiving a construction permit for] requirements contained in paragraphs (3)(B)1. through 7. of this rule for sanitary landfills [permitted after January 1, 1996. Any existing sanitary landfill that cannot demonstrate compliance with paragraphs (4)(B)1. through (4)(B)6. must close by October 9, 1996] and (3)(B)2. through 7. of this rule for demolition and special waste landfills.*

(B) *[Satisfactory Compliance Design] Location Restrictions.*

1. **Airport safety.**

A. *Owners/operators of sanitary landfills [operating after October 9, 1993,] that are located within ten thousand feet (10,000') of any airport runway end used by turbojet aircraft or within five thousand feet (5,000') of any airport runway end used by only piston-type aircraft shall demonstrate to the department that the sanitary landfills are designed and operated so that the landfill does not create or pose a bird hazard to aircraft.*

B. *Owners/operators proposing to site new sanitary landfills and horizontal expansions of existing sanitary landfills within a five (5)-mile radius of any airport runway end used by turbojet aircraft or piston-type aircraft shall notify the affected airport and the Federal Aviation Administration (FAA).*

*[2. Owners/operators of sanitary landfills, operating after October 9, 1993, located in one hundred (100)-year floodplains shall demonstrate to the department that the sanitary landfill will not restrict the flow of the one hundred (100)-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to public health or the environment.]*

*[3.]2. Wetlands.*

A. *[Sanitary landfills permitted after October 9, 1993, and unfilled surfaces of existing sanitary ]Landfills shall not be located in wetlands, unless the owner/operator [can] makes the following demonstrations to the department:*

(I) *The presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;*

(II) *The construction and operation of the [sanitary] landfill will not—*

(a) *Cause or contribute to violations of any applicable state water quality standard;*

(b) *Violate any applicable toxic effluent standard or prohibition under section 307 of the federal Clean Water Act;*

(c) *Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and*

(d) *Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;*

(III) *The [sanitary] landfill will not cause or contribute to significant degradation of wetlands. The owner/operator shall demonstrate the integrity of the [sanitary] landfill and its ability to protect ecological resources by addressing the following factors:*

(a) *Erosion, stability, and migration potential of native*

wetland soils, muds and deposits used to support the landfill;

(b) Erosion, stability, and migration potential of dredged and fill materials used to support the landfill;

(c) The volume and chemical nature of the waste disposed of in the landfill;

(d) Impacts on fish, wildlife, and other aquatic resources and their habitat from potential release of solid waste from the landfill;

(e) The potential effects of contamination of the wetland and the resulting impacts on the environment; and

(f) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected;

(IV) Steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by subparagraph [(4)(B)3.A.]) (3)(B)2.A. of this rule, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (for example, restoration of existing degraded wetlands or creation of man-made wetlands); and

(V) The requirements of paragraph [(4)(B)3.] (3)(B)2. may be satisfied by the owner/operator obtaining a United States Army Corps of Engineers permit for construction in a wetland or by demonstrating that the wetland is not regulated by the United States Army Corps of Engineers, or other appropriate agency.

*[4. Sanitary landfills permitted after October 9, 1993, and unfilled surfaces of existing sanitary landfills]*

**3. Floodplains. Owners/operators of landfills located within the one hundred (100)-year floodplains shall demonstrate to the department that the landfill will not restrict the flow of the one hundred (100)-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health or the environment.**

**4. Fault Areas. Landfills** located in the seismic impact zone shall not be located within two hundred feet (200') of a fault that has had displacement in Holocene time unless that owner/operator demonstrates to the department that an alternative setback distance of less than two hundred feet (200') will prevent damage to the structural integrity of the landfill and will be protective of *[public]* human health and the environment.

*5. [Sanitary landfills permitted after October 9, 1993, and unfilled surfaces of existing sanitary landfills]* **Seismic Impact Zones. Landfills** shall not be located in seismic impact zones, unless the owner/operator demonstrates to the department that all containment structures, including liners, final covers, leachate collection systems and surface water control systems, are designed to resist permanent cumulative earthquake displacements not to be greater than six inches (6"), resulting from the maximum credible Holocene time earthquake event's acceleration versus time history.

*6. [Owners/operators of sanitary landfills, operating after October 9, 1993,]* **Unstable Areas. Landfills** located in an unstable area shall demonstrate to the department that the *[sanitary]* landfill's design ensures that the integrity of the structural components of the *[sanitary]* landfill will not be disrupted. The owner/operator shall consider the following factors, at a minimum, when determining whether an area is unstable:

A. On-site or local rock or soil conditions that may result in failure or significant differential settling;

B. On-site or local geologic or geomorphologic features; and

C. On-site or local human-made features or events (both surface and subsurface).

*[7. Plans shall include:*

A. *A map showing initial and proposed topographies at contour intervals of five feet (5') or less. This map shall have a scale of not less than one inch (1") equal to one hundred feet (100'). If the entire site cannot be illustrated on one (1) plan sheet, an additional map with appropriate hori-*

*zontal and vertical scales that allows the site to be shown on one (1) standard plan sheet is required;*

B. *A map showing the land use and zoning within one-fourth (1/4) mile of the sanitary landfill including location of all residences, buildings, wells, water courses, springs, lakes, rock outcroppings, caves, sinkholes and soil or rock borings. All electric, gas, water, sewer and other utility easements or lines that are located on, under or over the sanitary landfill shall be shown on the map. This map shall have a scale of not less than one inch (1") equals four hundred feet (400');*

C. *A description of the projected use of the closed sanitary landfill. In addition to maintenance programs and provisions, where necessary for monitoring and controlling decomposition gases and leachate, the plans shall address the following ultimate use criteria:*

(I) *Structures. It is not recommended practice to construct major structures within the permitted area of a closed sanitary landfill. If major structures are to be built within the permitted area of a closed sanitary landfill, prior written approval from the department is required. A professional engineer shall approve their design and construction, including provision for protection against potential hazards of solid waste decomposition gases; and*

(II) *Other uses. Appropriate design, construction and operating provisions for the sanitary landfill shall be specified to complement the projected future use; and*

D. *An evaluation of the characteristics and quantity of available on-site soil with respect to its suitability for sanitary landfilling operations. The engineering properties and quantity estimates of the on-site soil shall be discussed and shall include:*

(I) *Texture. Sieve and hydrometer analyses shall be performed to determine grain size distribution of representative soil samples. Texture may be determined by using the procedures described in ASTM method D422-63 or the procedures described in Appendix D of Engineer Manual 1110-2-1906, prepared by the United States Army Corps of Engineers;*

(II) *Plasticity. The liquid limit, plastic limit and plasticity index of representative soil samples shall be determined. Plasticity may be determined by using the procedures described in ASTM method D4318 84 or the procedures described in Appendix III of Engineer Manual 1110-2-1906, prepared by the United States Army Corps of Engineers;*

(III) *Hydraulic conductivity. Laboratory hydraulic conductivity tests shall be performed upon undisturbed representative soil samples using a flexible wall permeameter (ASTM D-5084). If an aquifer is found to be laterally continuous across the anticipated limit of the proposed landfill, the hydraulic conductivity of each significant continuous geologic unit must be determined. Examples of accepted field tests are in situ slug or pump tests which isolate the geologic unit of interest; and*

(IV) *Area extent and depth. The area extent and depth of soil suitable for landfill construction shall be determined. Variations in soil depth shall be clearly described.*

**8. If the base of the landfill liner will be in contact with groundwater, the applicant shall demonstrate to the department's satisfaction that the groundwater will not adversely impact the liner.**

**(C) Satisfactory Compliance—Operations.**

**1. The sanitary landfill shall be accessible to vehicles which the sanitary landfill is designed to serve by all-weather roads leading from the public road system; temporary roads shall be provided as needed to deliver wastes to the working face.**

**2. The sanitary landfill shall not be located in an area**

where the public roads or access roads to the sanitary landfill may be flooded preventing use of the sanitary landfill unless an alternate sanitary landfill is available.

(5) Design.

(A) Requirement.]

7. Placement Above the Uppermost Aquifer. Landfills permitted after the effective date of this rule, including horizontal expansions, must be constructed with a base (lowest elevation of the sump) that is located above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the landfill and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).

(4) Design and Operations per the Permit Application. Plans, addendums, as-built drawings, or other documents which describe the design, construction, operation, or closure of a sanitary, demolition, or special waste landfill, or which request an operating permit modification for the [sanitary] landfill shall [be prepared or approved by a professional engineer. These documents shall be stamped or sealed by the professional engineer and submitted to the department for review and approval.] be prepared, sealed, and signed by a professional engineer and submitted to the department for review and approval. Procedures for testing, site evaluation and preparation, and construction of the landfill shall be included with the application and performed as described in the plans approved by the department. Plans, addendums, as-built drawings, or other documents which describe the design, construction, operation, or closure of a landfill, or which request an operating permit modification for the landfill shall be kept available for use and reference on-site.

(A) Plans accompanying the permit application for a sanitary, demolition, or special waste landfill that are submitted to the department shall include:

1. A map showing initial and proposed topographies at contour intervals of five feet (5') or less utilizing a scale of not less than one inch (1") equal to one hundred feet (100'). If the entire site cannot be illustrated on one (1) plan sheet, an additional map with appropriate horizontal and vertical scales that allows the site to be shown on one (1) standard plan sheet is required;

2. A map having a scale of not less than one inch (1") equals four hundred feet (400') identifying the land use and zoning within one-fourth (1/4) mile of the landfill including location of all known residences, buildings, wells, water courses, springs, lakes, rock outcroppings, caves, sinkholes and soil or rock borings. All known electric, gas, water, sewer and other utility easements or lines that are located on, under or over the landfill shall be shown on the map;

3. A description of the projected use of the closed landfill. In addition to maintenance programs and provisions, where necessary for monitoring and controlling decomposition gases and leachate, address the following ultimate use criteria:

A. Structures. Enclosed structures are not allowed on the waste footprint of a landfill. If major structures are to be built outside of waste within the permitted area of any landfill, the structure must be approved by the department. A professional engineer shall approve the design and construction of the structure, including provisions for protection against potential hazards of solid waste decomposition gases; and

B. Other uses. Appropriate design, construction and operating provisions for the landfill shall be specified;

4. An evaluation of the characteristics and quantity of available soil on or off site with respect to its suitability for landfill construction and operation. The engineering properties and quantity estimates of the soil on site shall be discussed and include:

A. Texture. Sieve and hydrometer analyses shall be performed to determine grain size distribution of representative soil samples. Texture may be determined by using the procedures described in ASTM method D422-63(2007) ASTM International 100 Barr Harbor, West Conshohocken, PA 19428, Publication date 2007 or the procedures described in Appendix D of *Engineer Manual 1110-2-1906*, prepared by the United States Army Corps of Engineers;

B. Plasticity. The liquid limit, plastic limit and plasticity index of representative soil samples shall be determined. Plasticity may be determined by using the procedures described in ASTM method D4318-17 ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428 Publication date 2017 or the procedures described in Appendix III of *Engineer Manual 1110-2-1906*, prepared by the United States Army Corps of Engineers;

C. Hydraulic conductivity. Perform laboratory hydraulic conductivity tests upon undisturbed representative soil samples using a flexible wall permeameter (ASTM D-5084-16) ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428 Publication date 2016. If an aquifer is found to be laterally continuous across the anticipated limit of the proposed landfill, the hydraulic conductivity of each significant continuous geologic unit must be determined. Examples of accepted field tests are *in situ* slug or pump tests which isolate the geologic unit of interest; and

D. Areal extent and depth. Determine the areal extent and depth of soil suitable for landfill construction, clearly describing any variations in soil depth.

[(B) Satisfactory Compliance—Design]

[1.]5. [Plans submitted as part of an application for a construction permit after the effective date of this rule shall provide for the maintenance of a] Provisions for a minimum one hundred foot (100')-buffer zone between the outer edge of the landfill liner and any property line(s) or any right-of-way(s) of adjoining road(s) when the property line(s) is inside the right-of-way(s) to provide room for assessment and/or [remedial] corrective actions[.];

[2.]6. [The plan shall include] An operating manual describing the various tasks [that shall be] performed during a typical shift/.

3. Owners/operators], including routine and regular tasks (i.e., monitoring and inspections) performed throughout the life of [sanitary landfills shall demonstrate] the landfill;

7. A demonstration of how adverse geologic and hydrologic conditions may be altered or compensated for via surface water drainage diversion, underdrains, sumps, and other structural components[. All], and detail all necessary site alterations [of the site shall be detailed] in the plans[.];

[A.]8. Site-specific [P]precipitation, evapotranspiration and climatological conditions [shall be considered in site selection and design.]; and

[B.]9. [Engineering plans and specifications that have] All computer models [attached to them shall] used in the landfill design, and list the limitations and assumptions of each model [used in the application].

[4.](B) [Plans shall include] Stability analyses shall be performed for all stages of landfill construction[.], all liner and leachate system components, and on all final cover system components, as well as an evaluation of the effect of waste settlement on the final cover system components, side slope liner system components, and surface water management system components. Results shall be submitted from all analyses and evaluations.

[A. Settlement and bearing capacity analysis shall be performed on the in-place foundation material beneath the disposal area. The effect of foundation material settlement on the liner and leachate collection system shall be evaluated.

*B. Stability analysis shall be performed on all liner and leachate system components.]*

(C) Settlement and bearing capacity analysis shall be performed on the in-place foundation material beneath the disposal area, and the results submitted in the design plan.

(D) Analyze the effect of foundation material settlement on the liner and leachate collection system, and include the analytical results in the plan.

*[C.](E) Analyze [L]leachate collection pipe material and drainage media [shall be analyzed] to demonstrate that these components possess structural strength to support maximum loads imposed by overlying waste materials and equipment, and include the results in the plan.*

(F) Sump and side slope riser designs must consist of at least SDR 17 piping and be not less than eighteen inches (18") in diameter.

(G) Submit typical phase development drawings with the plan.

(H) Submit proposed cross-section drawings with the application that show groundwater elevations in relation to liner and final landfill height.

(I) Liner System Requirement. All landfills applying for a construction permit after the effective date of this rule shall have a composite liner as follows:

1. A composite liner must consist of two (2) components; the upper component consisting of, at a minimum, a thirty (30) mil geomembrane liner (GM), and the lower component consisting of at least a two foot (2') layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  centimeters per second (cm/sec). GM components consisting of high density polyethylene (HDPE) must be at least sixty (60) mil thick. The GM or upper liner component must be installed in direct and uniform contact with the compacted soil or lower liner component. The compacted soil liner component at a minimum shall be—

A. Constructed of six to eight inch (6–8") loose lifts of unfrozen soil;

B. Compacted to ranges of density and moisture such that are shown to provide for the liner to have a hydraulic conductivity no more than  $1 \times 10^{-7}$  cm/sec;

C. Protected from the adverse effects of desiccation or freeze/thaw cycles after construction, but prior to placement of waste;

D. Composed of soils that meet following minimum specifications:

(I) Be classified under the Unified Soil Classification Systems as CL, CH, or SC (ASTM Test D2487-11) ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428 Publication date 2011;

(II) Allow more than thirty percent (30%) passing a number 200 sieve;

(III) Have a liquid limit equal to or greater than twenty (20) (ASTM Test D4318-17) ASTM International, 100 Barr Harbor West Conshohocken, PA 19428, Publication date 2017; and

(IV) Have a plasticity index equal to or greater than ten (10) (ASTM Test D4318-17) ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428, Publication date 2017; and

E. Installed so that the minimum bottom slope in any direction of flow is at least one percent (1%).

2. A test pad shall be constructed at the site and tested to verify that the proposed soils, construction equipment, and construction and quality control (QC) procedures are adequate to ensure that the soil component of the composite liner system will meet the requirements listed above.

A. Quality assurance (QA)/QC procedures and construction methods to be used during test pad construction shall be described in detail in the approved engineering report, and shall be identical to those proposed for liner construction with the fol-

lowing additions:

*[D.](I) [Waste mass stability analysis] At least two (2) laboratory hydraulic conductivity tests shall be performed on [the disposal area at final waste grade conditions and at intermediate slope conditions.] undisturbed samples of the completed test pad;*

*[E. Stability analysis shall be performed on all final cover system components, including an evaluation of the effect of waste settlement on the final cover system components, side-slope liner system components, surface water management system components and gas migration system components.*

*(C) Satisfactory Compliance—Operations.*

1. Construction and operation of the sanitary landfill shall be conducted in accordance with the engineering plans and specifications approved by the department.

2. The operating manual describing the various tasks that shall be performed during a typical shift shall be available to employees for reference and to the department upon request.

3. Phase development drawings shall be included with the application.]

(II) At least five (5), with one (1) in-situ, hydraulic conductivity tests (ASTM D6391-11 Standard Test Method for Field Measurement of Hydraulic Conductivity Using Borehole Infiltration, ASTM International, 100 Barr Harbor West Conshohocken, PA 19428, Publication date 2011), shall be performed on the completed test pad; and

(III) At least two (2) test pits shall be excavated into the completed test pad to observe inter-lift bonding.

B. If test pad construction and testing shows that the proposed methods are not sufficient to meet the requirements of this rule, a new test pad shall be constructed using revised procedures approved by the department.

C. For phased construction, only one (1) test pad will be required for a particular soil source, soil type, and equipment type.

D. A final report shall be submitted to the department that describes in detail the construction and QC procedures which were used to achieve satisfactory test pad performance.

(I) The report must be approved by the department prior to beginning construction of the soil component of the composite liner system in the disposal area.

(II) The report shall serve as guidance for construction of the soil component of the composite liner system.

E. The requirement for a test pad may be waived provided the applicant can demonstrate to the department's satisfaction the construction and QC procedures are identical to those described in the approved engineering report and will result in construction of a liner which meets the requirements of this rule, and the soils proposed for liner construction meet the following minimum specifications:

(I) Have a plasticity index greater than fifteen (15) and less than thirty (30) (ASTM test D4318-17 ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428, Publication date 2017);

(II) Allow more than fifty percent (50%) passage through a number 200 sieve (ASTM D1140-17 ASTM International, 100 Barr Harbor, West Conshohocken, PA 19428, Publication date 2017); and

(III) Allow less than ten percent (10%) by weight particle sizes greater than two millimeters (2 mm).

(J) Requests for using Alternative Composite Liners will be considered for approval on a site-by-site basis.

(K) The leachate collection and removal system at the landfill shall be designed, constructed, operated, and maintained to collect and remove leachate from the landfill as long as leachate is being generated.

1. The leachate collection and removal system shall be:

A. Designed and operated to maintain less than a thirty (30) centimeter (1 foot) depth of leachate over the liner system;

B. Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying waste, waste cover materials, and equipment used at the landfill; and

C. Designed and operated to minimize clogging during the active life and post-closure care period.

2. Leachate flow quantities shall be estimated and the method(s) of leachate management outlined in the application submittal.

3. Leachate storage facilities shall comply with all currently applicable requirements of the Missouri Clean Water Law and corresponding rules.

4. Minimum design criteria for leachate collection systems shall include the following:

A. Ponds and/or tanks of sufficient capacity to store, equalize flow to disposal systems, and allow system/operating flexibility;

B. Collection systems designed and operated so that any leachate formed will flow by gravity into collection areas from which the leachate can be removed, treated if necessary, and disposed;

C. That proposed leachate management by application on the working face or by recirculation within the permitted fill area shall be conducted in accordance with an approved engineering method and designed, constructed, and operated to minimize off-site impacts; and

D. Any leachate collection system open to precipitation must be designed to prevent discharge during twenty-four (24) hour, twenty-five (25) year storm event. Plans shall include the calculations detailing the design. At a minimum, sites using leachate pond(s) shall maintain an operational freeboard of no less than two feet (2') during normal operation, with a minimum freeboard of no less than one foot (1') after a twenty-four (24) hour, twenty-five (25) year storm event.

5. Design plans shall include a description of leachate management activities by the landfill owner/operator under normal operating conditions. The plans shall also describe actions the landfill owner/operator shall take when the emergency level of less than two feet (2') of freeboard occurs in any pond, including at a minimum, how leachate will be removed from the pond and transported to a treatment or disposal facility, if necessary, a description of any testing requirements necessary prior to disposal, and a schedule by which time the leachate levels will be returned to the normal operating range, with at least two feet (2') of freeboard; the plans shall also include a contingency plan for leachate management in the event the on-site system becomes inoperable and leachate must be taken off-site for proper disposal.

[(6)](5) Quality Assurance/Quality Control [(qa/qc)] (QA/QC).

(A) [Requirement.] The construction, operation, corrective action, and closure of the sanitary, demolition, or special waste landfill shall include [quality assurance and quality control] QA/QC measures to ensure compliance with approved plans and all applicable federal, state, and local requirements. The permittee shall be responsible for ensuring that the [quality assurance/quality control] QA/QC supervision is conducted by a qualified professional.

[(B) Satisfactory Compliance—Design.]

[1.](B) QA/QC [P]plans shall include/:

A. A/a detailed description of the [qa/qc] QA/QC testing procedures that will be used for every major phase of construction. [The] This description must include, at a minimum, the frequency of inspections, field testing, laboratory testing, equipment to be uti-

lized, the limits for test failure, [and] a description of the procedures to be used upon test failure/;], and

[B. A/a detailed procedure for the reporting and recording of [qa/qc] QA/QC activities and testing results/; and].

[C. Continuous visual classification of borrow soil during landfill construction by qualified qa/qc inspector(s) or certifying professional engineer.

2. All qa/qc reports shall be reviewed and approved by a professional engineer.]

1. The QA/QC plan shall include the following components:

A. Leachate collection system. Reports prepared or approved by the professional engineer transmitting the results of the QA/QC procedures and stating that the leachate collection system was constructed according to the approved design or describing any deviations from the approved design; and

B. Liner. The liner specified by section (4) of this rule shall be constructed in accordance with the approved design specifications. The QA/QC procedures shall include:

(I) Evidence that the liner material(s) utilized meet the minimum design specifications;

(II) Evidence that field construction techniques meet the minimum design specifications (for example, soil density test);

(III) Evidence that the liner construction is proceeding as designed through routine verification observations using a pre-determined system of horizontal and vertical survey controls; and

(IV) Oversight of the liner construction and QA/QC procedures by a qualified professional, including submission of reports to transmit the results of the QA/QC procedures. Additionally, the report shall state that the liner was constructed according to design and describe any deviations from the approved design.

[(C) Satisfactory Compliance—Operations.]

[1.](C) At a minimum, [qa/qc] QA/QC testing shall include:

[A.1. Testing of each lift of the soil component of the final cover and landfill liner for field density and field moisture once per every ten thousand (10,000) square feet and providing relatively uniform coverage over the landfill surface;

[B.2. Laboratory testing for Atterberg Limits (ASTM D-4318) and hydraulic conductivity [testing] of the soil used for liner construction once for every five thousand (5,000) cubic yards [of liner constructed] excavated;

[C.3. [Continuous] Routine visual classification of borrow soil during landfill construction [by qualified qa/qc inspector(s) or certifying] with oversight by an approving professional engineer;

[D.4. Measuring the elevations of the final cover and the landfill liner on a maximum spacing of one hundred-foot (100') centers and at one hundred-foot (100') intervals along each line where a break in slope occurs./;]

[(I)]A. Landfill liner. Measuring the elevations of the top and bottom of both the landfill liner./] and leachate collection systems;

[(III)]B. Final cover. Measuring the elevations of the top and bottom of the landfill cover—

[(a)](I) The compacted clay layer [supporting the geomembrane liner]; and

[(b)](II) The soil layer supporting vegetative growth;

5. For a geomembrane:

[E.1.A. Nondestructive testing of all seams of the geomembrane in the landfill liner and [final cover] cap; and

[F.1.B. Random destructive testing of the seams with results consistent with Geosynthetic Institute (GM 19a or GM 19b) 2017 of the geomembrane liner in the landfill liner and [final cover] cap on an average frequency of at least one (1) every five hundred (500) linear feet of seams/; and].

[G. Verification of the thickness of the leachate collection media by qualified qa/qc inspector(s) or certifying professional engineer on one hundred-foot (100') centers.]

[2.](D) All testing shall be performed *[under the direction of qualified qa/qc inspectors]* with oversight by an approving professional engineer for every major phase of construction.

[3. The qa/qc plan shall provide the following components:

A. Leachate collection system. Reports prepared or approved by the professional engineer transmitting the results of the qa/qc procedures and stating that the leachate collection system was constructed according to the approved design or describing any deviations from the approved design; and

B. Liner. The liner specified by section (10) of this rule shall be constructed in accordance with the approved design specifications. The qa/qc procedures shall include:

(I) Evidence that the liner material(s) utilized meet the minimum design specifications;

(II) Evidence that field construction techniques are resulting in the minimum design specifications (for example, soil density tests);

(III) Evidence that the liner construction is proceeding as designed through regular verification using a predetermined system of horizontal and vertical survey controls; and

(IV) Oversight of the liner construction and qa/qc procedures by a professional engineer. This shall include reports prepared, or approved, by the professional engineer transmitting the results of the qa/qc procedures and stating that the liner was constructed according to design or describing any deviations from the design.]

(E) All QA/QC reports shall be reviewed, approved, and submitted by a professional engineer.

[(7)](6) Survey Control.

[(A) Requirement.] Benchmarks, horizontal controls, and boundary markers at the landfill shall be established by a land surveyor registered in the state of Missouri to check and mark the location and elevations of the *[sanitary landfill. Construction stakes marking an individual section(s) or phase(s) shall be established as necessary to ensure the construction and operation proceed in accordance]* landfill ensuring compliance with design plans, phasing plans, and applicable conditions within the approved *[plans]* construction permit.

[(B) Satisfactory Compliance—Design.]

[1.](A) *[Boundary survey.]* At a minimum, *[A]*a survey of the entire permitted acreage shall be conducted in accordance with the current Minimum Standards for Property Boundary Surveys *[10 CSR 30-2.010]* 2 CSR 90 and include the establishment of a permanent monument used as a benchmark.

[2. Vertical control. The land surveyor shall establish a permanent monument as a benchmark or confirm the prior establishment of a benchmark on or adjacent to the property. The elevation shall be on the North American Vertical Datum, 1929 or similar well documented datum. If no such established datum exists within one (1) mile of the property, a project datum may be assigned to the benchmark. The benchmark shall be clearly shown on the survey plat.

[3. Horizontal control. The land surveyor shall establish three (3) permanent monuments as horizontal control stations. These stations shall form a triangle whose sides shall not be less than one thousand feet (1000'). The location of the horizontal control will be shown on the survey plat.

[4. The land surveyor shall establish boundary markers designating the entire permitted acreage which shall be composed of material which will last throughout the life of the sanitary landfill.

[5. Construction stakes. Stakes marking the individual section(s) or phase(s) specifically designated for the placement of solid waste are to be placed in locations and composed of material that is consistent with the operating life of

the section or phase.

(C) Satisfactory Compliance—Operations.

1. All boundary markers, benchmarks, horizontal control stations and construction stakes shall be clearly marked and identified.

2. Missing or displaced benchmarks or horizontal control stations shall be replaced or reestablished by or under the supervision of a land surveyor. The registered surveyor shall prepare a plat showing the replacement or reestablishment and furnish a copy to the department.

3. Missing or displaced construction stakes shall be replaced or reestablished as necessary to ensure the operations proceed in accordance with approved plans.

4. The permanent monuments designating vertical and horizontal control stations and boundary markers designating the entire permitted acreage shall be placed prior to receiving an operating permit as required by 10 CSR 80-2.020(2)(B).

5. Construction stakes marking the active area shall be placed prior to deposition of waste in individual areas, sections or phases of the sanitary landfill as designated by the approved engineering plans.]

(B) All site survey information shall be reported in State Plane Coordinate System and North America Vertical Datum 1988.

[(8)](7) Water Quality.

(A) *[Requirement. The location, design, construction and operation of the sanitary landfill shall minimize environmental hazards and shall conform to applicable ground and surface water quality standards and requirements. Applicable standards are federal, state or local standards and requirements that are legally enforceable.]* All permits and approvals necessary to comply with requirements of the Missouri Clean Water Law and corresponding rules shall be obtained from the department prior to commencement of operations at any landfill.

[(B) Satisfactory Compliance—Design.]

1. Plans shall include:

A. A report on the detailed geologic and hydrologic investigation of the site as required by 10 CSR 80-2.015.

B. Current and projected use of water resources in the potential zone of influence of the sanitary landfill;

C. Groundwater elevation and proposed separation between the lowest point of the lowest cell and the predicted maximum water table elevation;

D. Potential interrelationship of the sanitary landfill, local aquifers and surface waters based on historical records or other sources of information;

E. Proposed location and design of observation wells, sampling stations and testing program planned; and

F. Provisions for surface water runoff control to minimize infiltration and erosion of cover. All applicable permits and approvals necessary to comply with requirements of the Missouri Clean Water Law and corresponding rules shall be obtained from the department.]

[(I)](B) The *[area owner/operator]* of *[the watershed which will be affected by the sanitary]* an existing or new landfill *[shall be specified.]* or any horizontal expansion shall design, construct, operate, and maintain:

[(II)]1. On-site drainage, collection and control structures and channels *[shall be designed to prevent flow onto the active portion]* for all stages of *[the sanitary landfill during peak discharge]* development to accommodate, at a minimum, the storm water volume from *[at least]* a twenty-four (24)-hour, twenty-five (25)-year storm. The engineering calculations and assumptions shall be included and explained in the engineering report~~./~~ submitted to the department with the permit application; and

[(III)]2. *[On-site drainage structures and channels shall be designed to collect]* Surface water runoff diversion and control

[at least the water volume resulting from a twenty-four (24)-hour, twenty-five (25)-year storm.

[(IV) On-site drainage and channels shall be designed to empty expeditiously after storms to maintain the design capacity of the system.

(V) Contingency plans for on-site management of surface water which comes in contact with solid waste shall be specified.

(C) Satisfactory Compliance—Operations.

1. Surface water courses and runoff shall be diverted from the sanitary landfill (especially from the working face) by devices such as] structures to minimize infiltration, erosion, ponding, run-on at the working face and off-site transport of water and sediment (i.e. through ditches, berms, [and proper] grading[. The sanitary landfill shall be constructed and graded so as to promote rapid surface water runoff without excessive erosion. Regrading shall be done as required during construction and after completion to avoid ponding of precipitation and to maintain cover integrity.], etc.);

[2.](C) The quantity of water coming in contact with solid waste shall be minimized by the daily operational practices.

1. Water which comes in temporary contact with [solid] the waste shall be managed [as leachate] in accordance with the approved stormwater management plans.

2. Water that passes through or emerges from waste and contains soluble, suspended, or miscible materials removed from such waste shall be managed in accordance with the approved leachate management plan.

[(9)](8) Leachate [Collection System] Management.

[(A) Requirement. A leachate collection system shall be designed, constructed, maintained and operated to collect and remove leachate from the sanitary landfill.

(B) Satisfactory Compliance—Design. The potential for leachate generation shall be evaluated in determining the design of the system. Leachate flow quantities shall be estimated and the method(s) of leachate treatment and disposal shall be outlined. Leachate storage and treatment facilities shall comply with all currently applicable requirements of the Missouri Clean Water Law and corresponding rules. Construction quality assurance/quality control (qa/qc) procedures shall be included. Where a leachate treatment system is designed to have a discharge to the waters of the state, any required discharge permit(s) shall be obtained from the department in accordance with requirements of the Missouri Clean Water Law and corresponding rules.

1. Minimum design criteria for leachate collection systems shall include the following:

A. Ponds and/or tanks of sufficient capacity to store, equalize flow to disposal systems, and allow system/operating flexibility;

B. Construction material chemically resistant to the waste managed in the sanitary landfill and the leachate expected to be generated;

C. Construction materials of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying solid wastes, cover, leachate, and by any equipment used at the sanitary landfill;

D. Design and operate systems to function without clogging through the scheduled operating life, closure and post-closure of the sanitary landfill;

E. Design and operate systems to maintain less than one foot (1') depth of leachate over the disposal area liner; and

F. Design and operate systems so that any leachate formed will flow by gravity into collection areas from which the leachate can be removed, treated, and disposed.

2. Leachate management by recirculation within the per-

mitted fill area shall be conducted in accordance with an approved engineering method.

3. Any leachate collection system open to the atmosphere must be designed to prevent discharge during a twenty-five (25)-year, twenty-four (24)-hour storm event. Plans shall include the calculations detailing the design.

4. The applicant shall provide a method of leachate management in the application. A secondary or "backup" method of leachate disposal will be required unless the applicant can demonstrate that a secondary method will not be necessary.

(C) Satisfactory Compliance—Operations.

1. The leachate collection systems specified by subsection (9)(B) shall be properly installed and operated in accordance with the permit and the approved design and plans and maintained for the thirty (30)-year post-closure care period, or as long as the department determines necessary.]

(A) Leachate collection media designated for use in the system must be of a material and placed in a manner that will not damage the liner (i.e. no sharp rocks and wires from tire chips).

(B) Leachate dispersion on the working face for purposes of waste compaction and densification is allowed in accordance with operational plans approved by the department.

[2.](C) Leachate generated by the [sanitary] landfill shall be controlled on[-] site, collected in a manner to protect the integrity of any containment system, and not be allowed to [discharge]:

1. Enter the storm water infrastructure, including ponds, where it will mix with storm water;

2. Overtop its containment basin;

3. Discharge off of the [sanitary] landfill property [or];

4. [d]Discharge into the waters of the state, except as allowed in [accordance with] the approved plans and through a permit under the Missouri Clean Water Law and corresponding rules[.]; and

5. Blow or drift off the lined areas of the facility from spray dispersal, or mist evaporative methods employed for leachate management.

[(10) Liner System.

(A) Requirement. A liner shall be placed on all surfaces to minimize the migration of leachate from the sanitary landfill.

(B) Satisfactory Compliance—Design. A composite liner shall be installed at all landfills permitted after October 9, 1993, and existing landfills with uncovered surfaces, as determined by the department on a site-by-site basis, that consists of two (2) components—

1. An upper component that shall consist of a minimum thirty (30) mil thick geomembrane. Geomembrane components consisting of high density polyethylene (HDPE) shall be at least sixty (60) mil thick;

2. A lower component that shall consist of a least a two foot (2')-layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec. A compacted soil liner at a minimum shall be constructed of six to eight-inch (6–8") lifts, compacted to ninety-five percent (95%) of standard Proctor density with the moisture content between optimum moisture content and four percent (4%) above the optimum moisture content, or within other ranges of density and moisture that are shown to provide for the liner to have a hydraulic conductivity no more than  $1 \times 10^{-7}$  cm/sec. The design shall include a detailed explanation of the construction techniques and equipment necessary to achieve ninety-five percent (95%) of the standard Proctor density under field conditions. The design also shall include qa/qc procedures to be followed during construction of the liner. The composite liner shall be protected from the adverse effects of desiccation or freeze/thaw cycles after construction, but prior to placement of waste. Traffic shall be routed so as to

minimize the detrimental impact on the constructed liner prior to placement of waste. The soils used for this purpose shall meet the following minimum specifications:

A. Be classified under the Unified Soil Classification Systems as CL, CH, or SC (ASTM Test D2487-85);

B. Allow more than thirty percent (30%) passage through a No. 200 sieve (ASTM Test D1140);

C. Have a liquid limit equal to or greater than twenty (20) (ASTM Test D4318-84);

D. Have a plasticity index equal to or greater than ten (10) (ASTM Test D4318-84); and

E. Have a coefficient of permeability equal to or less than  $1 \times 10^{-7}$  cm/sec when compacted to ninety-five percent (95%) of standard Proctor density with the moisture content between optimum moisture content and four percent (4%) above the optimum moisture content, when tested by using (ASTM D-5084) a flexible wall permeameter or other procedures approved by the department;

3. The geomembrane component shall be installed in direct and uniform contact with the compacted soil component so as to minimize the migration of leachate through the geomembrane should a break occur; and

4. All solid waste disposal areas shall have a minimum bottom slope in any direction of flow of at least one percent (1%).

(C) Satisfactory Compliance—Operations.

1. A test pad shall be constructed at the site and tested to verify that the proposed construction and quality control (qc) procedures are adequate to ensure that the soil component of the composite liner system will meet the requirements of (10)(B)2. of this rule.

A. Construction and qc procedures to be used during test pad construction shall be described in detail in the approved engineering report, and shall be identical to those proposed for liner construction with the following additions:

(I) At least two laboratory hydraulic conductivity tests shall be performed on undisturbed samples of the completed test pad;

(II) At least one (1) in situ hydraulic conductivity test shall be performed on the completed test pad; and

(III) At least two (2) test pits shall be excavated into the completed test pad to observe interlift bonding.

B. If test pad construction and testing shows that the proposed methods are not sufficient to meet the requirements of paragraph (10)(B)2. of this rule, a new test pad shall be constructed using revised procedures approved by the department.

2. For phased construction, only one test pad will be required.

3. A final report shall be submitted to the department which describes in detail the construction and qc procedures which were used to achieve satisfactory test pad performance.

A. The report must be approved by the department prior to beginning construction of any portion of the composite liner system in the disposal area.

B. The report shall serve as guidance for construction of the soil component of the composite liner system.

4. The requirement for a test pad may be waived provided—

A. The applicant can demonstrate to the department's satisfaction that construction and qc procedures identical to those described in the approved engineering report have resulted in construction of a liner which meets the requirements of paragraph (10)(B)2. of this rule; and

B. The soils proposed for liner construction meet the following minimum specifications:

(I) Have a plasticity index greater than fifteen (15)

and less than thirty (30) (ASTM test D4318-84);

(II) Allow more than fifty percent (50%) passage through a number 200 sieve (ASTM D1140); and

(III) Have less than ten percent (10%) by weight particle sizes greater than two (2) mm.

5. The liner specified by subsection (10)(B) of this rule shall be constructed in accordance with the approved design specifications.]

[(11)](9) Groundwater Monitoring.

(A) [Requirements.] The owner/operator of a sanitary, **demolition, or special waste** landfill shall implement a groundwater monitoring program capable of determining the [sanitary] landfill's impact on the quality of groundwater underlying the [sanitary] landfill.

[(B) Satisfactory Compliance—Design.]

1. [All sanitary ]Landfills permitted on or after [October 9, 1993, shall] the effective date of this rule must be in compliance with all of the groundwater monitoring requirements of this section before an operating permit is issued. [Existing sanitary landfills shall be in compliance with section (11)—]

[A. By October 9, 1994, if located less than one (1) mile from a drinking water intake (surface or subsurface);

B. By October 9, 1995, if located between one (1) mile and two (2) miles from a drinking water intake (surface or subsurface); or

C. By October 9, 1996, if located greater than two (2) miles from a drinking water intake (surface or subsurface).]

2. The department may require landfills permitted prior to the effective date of this rule to comply with part or all of this section, if it is determined necessary by the department to protect human health or the environment.

[2.]3. The owner/operator of a [sanitary] landfill shall establish the potential for migration of fluid generated by the [sanitary] landfill into the groundwater by an evaluation of—

A. A water balance of precipitation, evapotranspiration, runoff, and infiltration;

B. At a minimum, the following characteristics:

(I) Geologic materials;

(II) Description of soil and bedrock to a depth adequate to allow evaluation of water quality protection provided by the soil and bedrock;

(III) Groundwater elevation;

(IV) Proposed separation between the lowest point of the lowest cell and the maximum water table elevation;

(V) Proximity of the [sanitary] landfill to water supply wells or surface water;

(VI) Rate and direction of groundwater flow; and

(VII) Current and projected use of water resources in the potential zone of influence of the [sanitary] landfill.

[3. A groundwater monitoring system shall be capable of yielding groundwater samples for analysis and shall consist of—

A. Monitoring wells (at least one (1) installed hydraulically upgradient; that is, in the direction of increasing static head from the sanitary landfill. The numbers, locations and depths shall be sufficient to yield groundwater samples that are—

(I) Representative of background water quality in the groundwater near the sanitary landfill; and

(II) Not affected by the sanitary landfill; and

B. Monitoring wells (at least three (3)) installed hydraulically downgradient; that is, in the direction of decreasing hydraulic head from the sanitary landfill. The number, locations and depths shall ensure that they detect any significant amounts of fluids generated by the sanitary landfill that migrate from the sanitary landfill to the groundwater. Monitoring wells, or clusters of monitoring wells, shall

be capable at a minimum, of monitoring all saturated zones down to and including the uppermost aquifer.

4. All monitoring wells shall be constructed as per 10 CSR 23-4.

(C) Satisfactory Compliance—Operations.

1. Groundwater monitoring wells.

A. Groundwater monitoring wells shall be installed so that the number, spacing and depths of monitoring systems shall be determined based upon site-specific technical information that shall include thorough characterization of—

(I) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

(II) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities and porosities.]

4. Groundwater monitoring wells shall be installed so that the number, spacing, and depths of the wells shall be determined based upon site-specific technical information that shall include a thorough characterization of—

A. Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

B. Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, and porosities. If the lower confining unit is one hundred feet (100') or more below the top of the uppermost aquifer, borings verifying the lower confining layer will not be required. The upper fifty feet (50') of uppermost aquifer will be characterized.

5. Groundwater monitoring wells shall be capable of yielding groundwater samples for analysis, effectively monitoring the site, and consisting of at least one (1) well installed hydraulically up gradient; that is, in the direction of increasing static head from the landfill and at least three (3) wells installed hydraulically downgradient; that is, in the direction of decreasing hydraulic head from the landfill. The numbers, locations, and depths shall be sufficient to yield groundwater samples that are—

A. Representative of background water quality in the groundwater near the landfill;

B. Not affected by the landfill; and

C. Capable of detecting any significant amounts of fluids generated by the landfill that migrate from the landfill to the groundwater.

D. Monitoring wells, or clusters of monitoring wells, shall be capable at a minimum, of monitoring all saturated zones down to and including the uppermost aquifer. The maximum distance a monitoring well may be located from the waste boundary is one hundred fifty meters (150m) or four hundred ninety-two feet (492').

[B.]6. The design and installation of groundwater monitoring well systems shall be observed, supervised, and certified by a qualified groundwater scientist and approved by the department.

[C. All groundwater monitoring wells shall be operational prior to the acceptance of wastes, unless other arrangements are approved by the department.

D. The design, installation, development, and decommissioning of monitoring wells and piezometers must be performed in accordance with 10 CSR 23-4.]

[2.](B) Sampling and [r]Reporting.

[A.]1. Each landfill's groundwater monitoring program must include consistent sampling and analysis procedures that are

designed to ensure monitoring results [that] provide an accurate representation of groundwater quality at [the background and down-gradient] monitoring wells installed in compliance with [subsection (11)(B).] this section. The owner/operator [must] shall submit the sampling and analysis program to the department for approval. The program [must] shall include procedures and techniques for—

[(I)]A. Monitoring well maintenance;

[(II)]B. Monitoring well redevelopment;

[(III)]C. Monitoring well depth measurement and hydraulic levels;

[(IV)]D. Monitoring well purging and sampling utilizing dedicated equipment;

[(V)]E. Equipment calibration;

[(VI)]F. Decontamination and field blanks;

[(VII)]G. Sample and duplicate sample collection;

[(VIII)]H. Sample preservation;

[(IX)]I. Sample labeling;

[(X)]J. Sample handling;

[(XI)]K. Field measurements;

[(XII)]L. Field documentation;

[(XIII)]M. Chain of custody control;

[(XIV)]N. Sample shipment;

[(XV)]O. Analytical procedures;

[(XVI)]P. Q[a/qc]A/QC control—field and laboratory; and

[(XVII)]Q. Statistical testing strategy [per paragraph (11)(C)5.] for each parameter's concentrations.

[B.]2. Each groundwater monitoring program shall include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measures [hazardous constituents and other] monitoring [parameters] constituents in groundwater samples. Analysis shall be performed on unfiltered samples.

[C. The sampling procedures and frequency shall be protective of human health and the environment.

D. Groundwater elevations shall be measured in each well immediately prior to purging, each time groundwater is sampled.]

3. The owner/operator shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same solid waste disposal area shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow direction.

[3.](C) Baseline/background [m]Monitoring.

[A.]1. The owner/operator of a new sanitary or demolition landfill shall establish background groundwater quality for each of the monitoring [parameters or] constituents required [under paragraphs (11)(C)4.] in Appendix I for sanitary landfills and Appendix III for demolition landfills.

2. To establish background, a minimum of [four (4)] eight (8) quarterly samples of statistically independent sample data shall be obtained and analyzed from all monitoring wells [during a minimum of one (1) year following well installation]. Additional background samples may be required based upon the statistical methodology used.

[B. The number of samples collected to establish background values for groundwater quality data shall satisfy the requirements of subsection (11)(C) and shall be consistent with the appropriate statistical procedures determined pursuant to paragraph (11)(C)5. The sampling procedures shall be those specified under paragraph (11)(C)4. for detection monitoring, paragraph (11)(C)6. for assessment monitoring and section (12) for corrective action.]

3. Landfills may begin accepting waste upon completion of a minimum of four (4) independent baseline/background sampling events of constituents in Appendix I for sanitary landfills and Appendix III for demolition landfills.

4. Background concentrations also shall be established for monitoring constituents listed in Appendix II for sanitary landfills and Appendix IV for demolition landfills, and two (2) sets of

samples shall be obtained prior to accepting waste. If constituents in Appendix II for sanitary landfills and Appendix IV for demolition landfills are not detected after two (2) background events, the background concentrations may be established as the detection limit for those organic constituents.

**[4.](D) Detection [m]/Monitoring.**

**[A.].1.** The owner/operator of a sanitary or demolition landfill shall obtain and analyze water samples from the groundwater monitoring wells during the months of **March through May and September through November** of each calendar year unless an alternative schedule is approved by the department. Sampling events must be six (6) months apart or an alternative schedule approved by the department.

**[B.].2.** The following [parameters] constituents shall be analyzed each time a sample is obtained:

*[Chemical Oxygen Demand (COD in milligrams per liter (mg/l));*

*Chlorides (Cl, (mg/l));*

*Iron (Fe, (mg/l));*

*pH (units);*

*Specific Conductance (Conductivity at twenty-five degrees Celsius (25°C) in micromhos per centimeter (µmho/cm));*

*Total Dissolved Solids (TDS, (mg/l)); and*

*All parameters]*

**A.** For a sanitary landfill, all constituents listed in Appendix [1] I of this rule.

**B.** For a demolition landfill, all constituents listed in Appendix III of this rule.

**C.** *[Additionally, t]*The water level in each well shall be measured at the sanitary or demolition landfill at the time the sample is taken.

**[C.].3.** The sample results, and any results of statistical analysis determining statistically significant increases for any [parameter per paragraph (11)(C)5.] constituent shall be submitted to the department in one (1) report within ninety (90) days of when samples are collected. All groundwater data shall be submitted electronically, in the format and method as prescribed by the department.

**[D.].4.** In the case of all detection monitoring requirements previously listed, the department may specify an appropriate alternative frequency for repeated sampling and analysis during the active life of the [sanitary] landfill (including closure) and the post-closure period. The department may add additional [parameters] constituents or delete [parameters] constituents on a site-by-site basis through an evaluation of waste and leachate characteristics of the [sanitary] landfill.

**[E.** The electronic submission of groundwater data is required. This submission shall be in the format and method as prescribed by the department.]

**[5.](E) Statistical Method.** The owner/operator of a sanitary, demolition, or special waste landfill shall specify [in the operating record one (1) or more of the following] statistical methods to be used in evaluating groundwater monitoring data for each monitoring constituent. *[The statistical test chosen shall be conducted separately for each constituent:]* These methods shall be in compliance with the EPA Unified Guidance, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-March 2009.

**[A.** A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The procedure shall include estimation and testing of the contrasts between each downgradient well's mean and the upgradient means for each parameter;

**B.** An ANOVA based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The procedure shall include estimation and testing of the contrasts between each downgra-

dient well's median and the background medians for each parameter;

**C.** A confidence interval procedure in which an interval for each parameter in each downgradient well is constructed around the mean/median of the particular well's data or data residuals and compared to the mean/median of pooled background well data;

**D.** A prediction interval procedure in which an upper prediction limit for an interval for each parameter in each well is compared to subsequently obtained values from the same well;

**E.** A prediction interval procedure in which an upper prediction limit for an interval for each parameter constructed on the pooled background well data or data residuals is compared to subsequently obtained values from each downgradient well;

**F.** A tolerance interval procedure in which an upper tolerance limit for an interval for each parameter's pooled background well data is compared to each downgradient well's concentration values;

**G.** A multicomparison procedure utilizing any recommended U.S. Environmental Protection Agency combinations of intra-well and inter-well procedures for each parameter;

**H.** A control chart approach, meeting the performance standards of part (11)(C)5.J.(III), that gives control limits for each parameter;

**I.** A different statistical test method that meets the performance standards of subparagraph (11)(C)5.J. of this rule. The owner/operator must submit the statistical test method to the department for approval before the use of the alternative test;

**J.** Any statistical method chosen under subparagraph (11)(C)5.J. of this rule shall comply with the following performance standards, as appropriate:

(I) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of the concentration data for the chemical parameters or hazardous constituents. If the distribution of the concentration data for the chemical parameters or hazardous constituents is shown by the owner/operator to be inappropriate for a normal data distribution theory test, then the data should be transformed or a distribution-free (nonparametric) theory test should be used. If the concentration data distributions for the constituents of each well differ, more than one (1) statistical method will be needed;

(II) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentration or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment-wide error rate for each testing period shall be no less than 0.05, however, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts;

(III) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The selection of this method shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern;

(IV) If a confidence interval, tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, then the level of confidence for each interval, and

the percentage of the population that each interval contains, shall be protective of human health and the environment. Selection of one (1) or more of these] methods shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern;

(V) The statistical method shall account for data below the limit of detection with one (1) or more statistical procedures that are protective of human health and the environment. Any practical quantization limit that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility; and

(VI) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.]

[6.](F) Response to **Detection Monitoring** [s/Statistical a/Analysis.

[A.].1. If the **statistical** comparison [for the upgradient wells] shows a statistically significant increase (or pH change) over background, **and attributes it to the landfill**, the owner/operator of the **sanitary, demolition, or special waste landfill** shall submit this information to the department **and conduct confirmation sampling during the next semiannual monitoring event.**

[B. If the comparisons for downgradient wells show a statistically significant increase (or pH change) over background, the owner/operator shall immediately obtain two (2) additional groundwater samples from each downgradient well where a statistically significant difference was detected. One shall be analyzed by the owner; the other shall be analyzed by the department to determine whether the statistically significant difference was a result of laboratory error.]

[C.].2. If the [additional samples show] **results of the statistical analysis reveal** a statistically significant increase (or pH change) over background, the owner/operator must demonstrate to the department within ninety (90) days that a source other than the [sanitary] landfill caused the contamination or that the statistically significant increase resulted from an error in sampling, analysis, statistical evaluation, or natural variation. **If the statistical methodology used by the owner/operator requires a confirmation sample or second confirmation sample, then the next required sampling event can be used as the confirmation sampling event.**

**(G) Assessment Monitoring.**

1. If the owner/operator cannot make this demonstration to the department, the owner/operator shall submit a [plan to the department for a] groundwater assessment monitoring [program] plan and implement the [program as described in subparagraphs (11)(C)6.D. through J. of this rule] **plan upon approval by the department.** The **assessment monitoring** plan shall specify the following:

[(I)]A. The number, location, and depth of wells;

[(II)]B. Sampling and analytical methods for the monitoring [parameters] **constituents** listed in Appendix II or IV of this rule, **as applicable;**

[(III)]C. Evaluation procedures, including any use of previously gathered groundwater quality information;

[(IV)]D. The rate and extent of migration of a contaminant plume in the groundwater; and

[(V)]E. The concentrations of the contaminant plume in the groundwater.

[D. Within ninety (90) days of beginning an assessment monitoring program, and semiannually after that, the owner/operator shall sample and analyze the groundwater for all constituents identified in Appendix II of this rule. A minimum of one (1) sample from each downgradient well shall be collected and analyzed during the initial sampling event. A minimum of one (1) sample from each downgradient

well at which Appendix II constituents were detected shall be collected and analyzed at each subsequent sampling event. For any new constituent detected during assessment monitoring (that was not detected during detection monitoring) in the downgradient wells, a minimum of four (4) statistically independent samples from each well (upgradient and downgradient) shall be collected and analyzed to establish background for the new constituents. The department may add additional parameters or delete parameters on a site-by-site basis through an evaluation of waste and leachate characteristics of the sanitary landfill.

E. The owner/operator shall establish a groundwater protection standard for each constituent specified in Appendix II of this rule and detected in the groundwater. The groundwater protection standard shall be—

(I) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Federal Safe Drinking Water Act and found at 40 CFR part 141, the MCL for that constituent;

(II) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with paragraph (11)(C)3. of this rule;

(III) For constituents for which the background level is higher than the MCL identified in part (11)(C)6.E.(I) of this rule, the background concentration; or

(IV) A level established by the department based upon a consideration of relevant factors, including: multiple contaminants in the groundwater, exposure threats to sensitive environmental receptors, and other site-specific exposure or potential exposure to groundwater.]

[F.].2. After obtaining the results from the initial or subsequent sampling events [required in subparagraph (11)(C)6.D.], the owner/operator shall—

[(I)]A. Within fourteen (14) days, [notify] **advise** the department [and place a notice in the operating record identifying the] **which** constituents [that] have been detected;

[(II)]B. Within ninety (90) days, and on [at least] a semi-annual basis after that, resample all wells and conduct analysis for all constituents listed in Appendix I [to this rule and for those constituents listed in] and Appendix II [of this rule that are detected in response to the requirements of subparagraph (11)(C)6.D. of this rule. Record the concentrations of each constituent in the facility operating record and notify the department of the constituent concentrations. A minimum of one (1) sample from each well sampled(background and downgradient)] that were detected during the initial or subsequent sampling events of assessment monitoring for the sanitary landfill, and Appendix III and IV that were detected during the initial or subsequent sampling events of assessment monitoring for the demolition landfill. Samples shall be analyzed for the complete list of Appendix II or Appendix IV constituents at least once every five (5) years for all wells in assessment monitoring. A minimum of one (1) sample from each well sampled shall be collected and analyzed during these sampling events;

[(III)]C. Establish background concentrations for any new constituents detected during subsequent monitoring events; and

[(IV)]D. Establish groundwater protection standards for all new constituents detected during subsequent monitoring events. **For the purposes of this subparagraph, the site-specific groundwater protection standards shall be the maximum contaminant level (MCL) established under 10 CSR 25-18.010, provided that if no MCL has been established or the site-specific background value is higher than the MCL, then the groundwater protection standards shall be the site-specific background value.**

[G.].E. If the concentrations of all constituents listed in Appendix II or IV of this rule are shown to be at or below background levels as established in [paragraph (11)(C)3. of] this rule

for two (2) consecutive sampling periods, the owner/operator may reinstate detection monitoring *[at the sanitary landfill as specified under subparagraph (11)(C)3.C. of this rule]*.

*[H./F.* If the concentrations of any constituents listed in Appendix II or IV of this rule are above background values, but all concentrations are below the groundwater protection standard established under *[subparagraph (11)(C)6.E. of]* this rule using the statistical procedures *[in paragraph (11)(C)5. of this rule]* approved by the department for the landfill, the owner/operator shall notify the department*[,]* and the department may require the owner/operator to—

(I) Continue assessment monitoring; or

(II) Develop a corrective *[measures assessment]* action plan, or both.

*[I./G.* If one (1) or more constituents listed in Appendix I, II, III, or IV of this rule are detected at levels above the groundwater protection standard *[as established under subparagraph (11)(C)6.E.]*, the owner/operator shall—

(I) Provide the department with a report assessing potential corrective *[measures]* actions as *[required under subsection (11)(A)]* outlined in section (10);

(II) Characterize the nature and extent of the release by installing additional monitoring wells as necessary*;* *install at least one (1) additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with paragraph (11)(C)6. of this rule]* to determine the rate and extent of groundwater contamination, and notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site as indicated by sampling of wells; and

(III) Continue assessment monitoring as per the groundwater quality assessment plan and *[as per]* implement the *[implementation of the]* approved corrective action program specified in *[section (12) of]* this rule.

*[J./H.* The results of implementation of the assessment monitoring program shall be submitted to the department at the end of each year or an alternate time period approved by the department.

***[(12)](10) Corrective Action/Risk Based Corrective Action. Owners and operators of a sanitary, demolition, or special waste landfill that shows one (1) or more constituents listed in Appendix I, II, III, or IV of this rule being detected at levels above the groundwater protection standard as established, shall either proceed with corrective actions or submit a risk based corrective action plan as outlined in subsections (10)(A) through (C).***

(A) Assessment of Corrective *[Measures]* Action(s).

1. Within ninety (90) days of finding that any of the constituents listed in Appendix II or IV of this rule have been detected at a statistically significant level exceeding the groundwater protection standards *[defined under subparagraph (11)(C)6.E. of this rule]*, the owner/operator shall initiate an investigation and assessment of potential corrective *[measures]* actions. This assessment shall be completed within a reasonable period of time, and a report describing the assessment of corrective *[measures]* actions shall be submitted to the department.

2. The owner/operator shall continue to monitor in accordance with the assessment monitoring program as specified in *[subparagraph (11)(C)6.F. of]* this rule.

3. The assessment shall include an analysis of the effectiveness of potential corrective *[measures]* actions in meeting all of the requirements and objectives of the remedy as described *[under subsection (12)(B) of]* in this rule, addressing at least the following:

A. The performance, reliability, ease of implementation, and potential impacts of appropriate potential *[remedies]* corrective action(s), including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

B. The time required to begin and complete the *[remedy]* action(s);

C. The costs of *[remedy]* implementation; and

D. The institutional requirements such as state or local permit requirements or other environmental or *[public]* human health requirements that may substantially affect implementation of the *[remedy(ies)]* corrective action(s).

4. The owner/operator shall discuss the results of the corrective *[measures]* action(s) assessment, prior to the selection of a remedy, in a public meeting with interested and affected parties.

(B) Selection of *[Remedy]* Corrective Action(s).

1. Based on the results of the potential corrective *[measures]* action(s) assessment *[conducted under subsection (12)(A) of this rule]*, the owner/operator shall propose a *[remedy that, at a minimum, meets the standards listed in paragraph (12)(B)2. of this rule]* corrective action(s) plan. The owner/operator shall submit to the department, within fourteen (14) days of selecting a proposed *[remedy]* corrective action(s) plan, a report describing the proposed *[remedy]* corrective action(s) and *[shall place a copy of the report in the operating record that describes]* how the proposed *[remedy]* plan meets the standards *[in paragraph (12)(B)2.]* of this rule.

2. *[Remedies]* Corrective action(s) shall—

A. Be protective of the *[public]* human health and the environment;

B. Attain the groundwater protection standard *[as specified pursuant to subparagraph (11)(C)6.E. of this rule]*; and

C. Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of constituents listed in Appendix I, II, III, or IV of this rule into the environment that may pose a threat to human health or the environment*;* and*].*

*[D. Comply with standards for management of wastes as specified in paragraph (12)(C)4.]*

3. In proposing a *[remedy that meets the standards of paragraph (12)(B)2. of this rule]* corrective action, the owner/operator*[,]* and, in approving a remedy, the department shall *[consider]* include the following evaluation factors:

A. The long- and short-term effectiveness and protectiveness of the potential *[remedy]* action(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(I) Magnitude of reduction of existing risks;

(II) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of the proposed remedy;

(III) The type and degree of long-term management *[required]*, including monitoring, operation, and maintenance;

(IV) Short-term risks that might be posed to the community, workers, or the environment during implementation of the *[remedy]* corrective action(s), including potential threats to human health and the environment associated with excavation, transportation and redisposal, or containment;

(V) Time until full protection is achieved;

(VI) Potential for exposure of humans and environmental receptors to remaining waste*[s]*, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(VII) Long-term reliability of the engineering and institutional controls; and

(VIII) Potential need for replacement of the *[remedy]* corrective action(s);

B. The effectiveness of the *[remedy]* corrective action(s) in controlling the source to reduce further releases based on consideration of the following factors:

(I) The extent to which containment practices will reduce further releases; and

(II) The extent to which treatment technologies may be used;

C. The ease or difficulty of implementing the potential *[remedy(ies)]* corrective action(s) based on consideration of the following types of factors:

(I) Degree of difficulty associated with constructing the [remedy] **corrective action(s)** technology;

(II) Expected operational reliability of the proposed technologies;

(III) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(IV) Availability of necessary equipment and specialists; and

(V) Available capacity and location of needed treatment, storage, and disposal services; and

D. The degree to which community concerns are addressed by the proposed [remedy(ies)] **corrective action(s)**.

4. The owner/operator shall specify as part of the proposed [remedy] **corrective action(s)** a schedule(s) for initiating and completing [remedial activities] **corrective action(s)**. This schedule shall require the initiation of [remedial activities] **corrective action(s)** within a reasonable period of time [taking into consideration the factors set forth in subparagraphs (12)(D)4.A. through H. of this rule]. The owner/operator shall [consider] **include** the following factors in [determining, and the department will consider the following factors in approving, the schedule of remedial activities] **selecting corrective action(s)**:

A. Extent and nature of contamination;

B. Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards [established under subparagraph (11)(C)6.E. of] **pursuant to** this rule and other objectives of the remedy;

C. Availability of treatment or disposal capacity for wastes managed during implementation of the [remedy] **corrective action(s)**;

D. Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

E. Potential risks to human health and the environment from exposure to contamination prior to completion of the [remedy] **corrective action(s)**;

F. Resource value of any affected aquifer including:

(I) Current and future uses;

(II) Proximity and withdrawal rate of users;

(III) Groundwater quantity and quality;

(IV) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to the waste constituent;

(V) The hydrogeologic characteristic(s) of the facility and surrounding land;

(VI) Groundwater removal and treatment costs; and

(VII) The cost and availability of alternative water supplies;

G. Practicable capability of the owner/operator; and

H. Other relevant factors.

5. The department may determine that remediation of a release of any constituent listed in Appendix I, II, III, or IV of this rule from a [sanitary] landfill is not necessary if the owner/operator demonstrates to the satisfaction of the department that—

A. The groundwater is additionally contaminated by substances that have originated from a source other than [a sanitary] the landfill and those substances are present in concentrations such that cleanup of the release from the [sanitary] landfill unit would provide no significant reduction in risk to actual or potential receptors;

B. The constituent(s) is present in groundwater that—

(I) Is not a current or potential source of drinking water; and

(II) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that represents a statistically significant increase over background concentrations;

C. Remediation of the release(s) is technically impracticable; or

D. Remediation would result in unacceptable cross-media impacts.

6. A determination by the department pursuant to paragraph [(12)](10)(B)5. of this rule shall not affect the authority of the state to require the owner/operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and which significantly reduce threats to human health or the environment.

(C) Implementation of the Corrective Action(s) Program.

1. Based on the schedule established [under paragraph (12)(B)4. of this rule] for initiation and completion of [remedial activities] **corrective action(s)**, the owner/operator shall—

A. Establish and implement a corrective action(s) groundwater monitoring program that—

(I) At a minimum, meets the requirements of an assessment monitoring program [under paragraph (11)(C)6.] of this rule;

(II) Indicates the effectiveness of the corrective action(s) [remedy]; and

(III) Demonstrates compliance with the groundwater protection standard [pursuant to subparagraph (11)(C)6.E. of this rule].

B. Implement the corrective action(s) [remedy] selected [under subsection (12)(B) of this rule]; and

C. Take any interim [measures] **corrective action(s)** necessary, any [measures] **action(s)** determined to be necessary by the department, or both, to ensure the protection of human health and the environment. Interim [measures] **corrective action(s)** shall, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any [remedy that may be required pursuant to subsection (12)(B) of this rule] **action(s) selected**. The following factors shall be considered by an owner/operator, and will be considered by the department, in determining whether interim [measures] **action(s)** are necessary:

(I) Time [required] to develop and implement a final remedy;

(II) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(III) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(IV) Further degradation of the groundwater that may occur if [remedial] a **corrective action(s)** is not initiated expeditiously;

(V) Weather conditions that may cause hazardous constituents to migrate or be released;

(VI) Risks of fire, [or] explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(VII) Other situations that may pose threats to human health and the environment.

2. The department may determine, based on information developed after implementation of the [remedy] **corrective action(s)** has begun, or other information, that compliance [with requirements of paragraph (12)(B)2. of this rule are] is not being achieved through the [remedy] **action(s)** selected. In those cases, the owner/operator shall implement other methods or techniques that will achieve compliance with the requirements, unless the department makes the determination under paragraph [(12)](10)(C)3. of this rule.

3. If the department determines that compliance [with requirements under paragraph (12)(B)2. of this rule] cannot be practically achieved with any currently available methods, the owner/operator shall—

A. Obtain the certification of a qualified groundwater scientist and approval from the department that compliance [with the requirements under paragraph (12)(B)2.] cannot be practically

achieved with any currently available methods;

B. Implement alternative *[measures] corrective action(s)* to control exposure of humans or the environment to residual contamination, as necessary, to protect human health and the environment;

C. Implement alternative *[measures] corrective action(s)* for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are—

(I) Technically practicable; and

(II) Consistent with the overall objective of the *[remedy] corrective action(s)*; and

D. Submit a report to the department justifying the alternative *[measures] corrective action(s)*. The alternative *[measures] corrective action(s)* must be approved by the department prior to implementation.

4. All solid wastes that are managed pursuant to a *[remedy required under subsection (12)(C)] corrective action(s) plan* or an interim *[measure required under subparagraph (12)(C)1.C. of this rule,] corrective action(s) plan* shall be managed in a manner—

A. That is protective of the *[public] human* health and the environment; and

B. That complies with all applicable state and federal requirements.

5. Remedies selected pursuant to *[subsection (12)(B) of]* this rule shall be considered complete when—

A. The owner/operator complies with the groundwater protection standards established under *[subparagraph (11)(C)6.E. of]* this rule at all points within the plume of contamination;

B. Compliance with the groundwater protection standards *[established under subparagraph (11)(C)6.E. of this rule]* has been achieved by demonstrating that concentrations of all constituents listed in Appendix I, II, III, or IV of this rule have not exceeded the groundwater protection standard(s) for a period of three (3) consecutive years using the **approved** statistical procedures and performance standards *[in subsection (11)(C)]*. The department may specify an alternative length of time during which the owner/operator shall demonstrate that concentrations of all constituents listed in Appendix I, II, III, or IV of this rule have not exceeded the groundwater protection standard(s) taking into consideration—

(I) Extent and concentration of the release(s);

(II) Behavioral characteristics of the hazardous constituents in the groundwater;

(III) Accuracy of monitoring or modeling techniques, including any seasonal meteorological, or other environmental variabilities that may affect the accuracy; and

(IV) Characteristics of the groundwater; and

C. All actions required to complete the *[remedy] corrective action(s) plan* have been completed.

6. Upon completion of the *[remedy] corrective action(s)*, the owner/operator shall submit a certification to the department within fourteen (14) days after the *[remedy] corrective action(s)* has been completed *[in compliance with the requirements of paragraph (12)(C)5.]* and shall place a copy of the certification in the facility's operating record. The certification shall be signed by the owner/operator and by a qualified groundwater scientist and approved by the department.

7. When, upon completion of the certification, the owner/operator and the department determine/s that the corrective action(s) *[remedy]* has been completed *[in accordance with the requirements under paragraph (12)(C)5. of this rule]*, the owner/operator shall be released from the requirements for financial assurance for corrective action under 10 CSR 80-2.030(4)(C).

*[(13)](11) Air Quality.*

(A) *[Requirement.]* The design, construction, and operation of the sanitary, **demolition, or special waste** landfill shall minimize *[environmental] impacts or hazards to human health or the envi-*

**ronment** and shall *[conform to]* **comply with** applicable ambient air quality and source control regulations.

(B) *[Satisfactory Compliance—] Design[. Plans] and operational plans* shall include a description of efforts to be taken to prevent off-site emissions, including an effective dust and odor control program.

(C) *[Satisfactory Compliance—Operations. Burning of solid waste shall be prohibited. A burning permit or exemption may be obtained from the department permitting the burning of tree trunks, tree limbs, vegetation and untreated waste lumber. In areas operating under exemption certificates authorized by Chapter 643, RSMo approval shall be obtained from the local pollution control agency. The operating procedures and location for burning practices shall be submitted to the department for review and written approval.]* Operation and maintenance of the landfill gas collection and control system shall be in accordance with the Missouri Solid Waste Management Law and Missouri Clean Air Law.

(D) The landfill owner/operator shall take steps to prevent excessive odors or dust or any leachate spray from application to the working face, from leaving the landfill property.

(E) Burning at the *[sanitary]* landfill shall be conducted in accordance with Chapter 643, RSMo, the corresponding rules, the terms conditions, or both, of the plans, permit, or both, and all local requirements. In areas operating under exemption certificates authorized by Chapter 643, RSMo, approval shall be obtained from the local air pollution control agency. Burning within the permitted boundary of a sanitary or demolition landfill shall be limited to tree trunks, tree limbs, and vegetation resulting from land clearing related to landfill operation/development and only after receiving a burn permit or exemption from the department. Burning of all other solid waste is prohibited on the landfill property.

#### (12) Landfill Gas Monitoring.

(A) The sanitary or demolition landfill owner/operator shall implement a landfill gas monitoring program as outlined in Subsection (12)(C) prior to receiving an operating permit. Requirements for implementing a landfill gas monitoring plan at special waste landfills will be determined by the department on a case-by-case basis.

(B) The department may apply some or all of the requirements of this section to the design and maintenance of any landfill that has ceased accepting waste if the department determines there is evidence of an existing or potential safety concern or an existing or potential environmental impact, either of which that can be attributed to the adverse effects of landfill gas migrating from the landfill.

(C) Owners/operators of sanitary or demolition landfills receiving waste on or after the effective date of this rule shall develop a landfill gas monitoring plan prepared by an independent professional engineer capable of detecting landfill gases in the most likely zone(s) of migration to ensure concentrations of methane gas do not exceed limits set out in this rule. The plan shall describe the monitoring systems, equipment, and procedures that will be utilized to detect methane that is generated in the landfill and may accumulate in structures or migrate through the subsurface beyond the landfill property boundary.

1. The landfill gas monitoring plan shall include the following:

A. Provisions for monitoring the subsurface for migration of methane utilizing a network of landfill gas compliance monitoring wells installed within the permitted boundary.

(I) Gas monitoring well and well network – design and construction.

(a) Wells shall be designed and installed to monitor all unsaturated zones down to an elevation equal to the bottom elevation of waste at the lowest point in the landfill and include

all site-specific information used as a basis for the design, construction, installation, and monitoring of the wells.

(b) The maximum spacing between landfill gas compliance monitoring wells shall be five hundred feet (500') at any two adjacent well locations, unless the department approves documentation provided in the landfill gas monitoring plan that a hydrologic or topographic barrier to methane migration exists in a specific area of the site.

(c) The owner/operator shall assess the need for a closer well spacing to provide monitoring for:

I. Enclosed structures located within one thousand feet (1,000') of the permitted boundary;

II. Underground utility lines, trenches, vaults, manholes, and any other potential confined space(s) that are located within the permitted boundary or within one thousand feet (1,000') of the permitted boundary, and may require entry by a worker or property owner, or that could act as a conduit for landfill gas flow;

III. Any known natural subsurface gas migration pathways, based on documentation of the geologic, hydrologic, and topographic conditions of the site and the surrounding property located within one thousand feet (1,000') of the permitted boundary;

IV. Any known manmade subsurface gas migration pathways, based on knowledge of the site and the surrounding property; and

V. Any area of the site that was subject to historical methane migration assessments or investigation.

(d) The department may waive the requirement to install landfill gas compliance monitoring wells within a specific defined area provided the landfill owner/operator demonstrates to the department that a hydrologic or topographic barrier exists between the landfill waste footprint and the permitted boundary within the defined area. The demonstration(s) shall be submitted to the department with, or as an addendum to, the landfill gas monitoring plan, and shall address the following:

I. Hydrologic barrier. This requires the owner/operator to submit documentation to the department, reviewed, signed, and sealed by an independent registered geologist, that hydrologic conditions exist within the defined area that preclude the migration of landfill gas onto an adjacent property. To be classified as a hydrologic barrier, the hydrologic conditions must meet the following criteria:

a. The subsurface is continuously saturated in a zone defined by a vertical surface that exists between the landfill footprint and the permitted boundary and extends horizontally the entire width of the defined area, and extends vertically from an elevation equal to or lower than the bottom elevation of waste at the lowest point within the landfill footprint to an elevation equal to or greater than the elevation of the highest point along the permitted boundary within the defined area; and

b. The saturated conditions are permanent (i.e. not seasonal or weather dependent) within the defined area; and

II. Topographic barrier. This requires the owner/operator to submit documentation to the department, reviewed, signed, and sealed by an independent professional engineer, that the ground surface elevation along a continuous contour line between the landfill footprint and the permitted boundary and extending the entire width of the defined area, is below the bottom most elevation of any waste located within one thousand feet (1,000') of the defined area.

B. Provisions for monitoring for methane in each enclosed structure or confined space located within the permitted boundary of the landfill.

(D) Landfill Gas Monitoring Well Network - Operation and Maintenance.

1. Wells shall be constructed, installed, maintained, and plugged in accordance with the Missouri Monitoring Well

Construction Code, 10 CSR 23-4.

2. The survey coordinates and the top-of-casing elevation for each well shall be established using conventional or GPS surveying techniques and submitted to the department with the monitoring system as-built drawings.

3. Each well shall be marked clearly in the field with a permanent placard or sign showing its identification number.

4. Each well shall be equipped with a sampling port to allow sampling without removal of the well cap.

5. All monitoring wells shall be protected from unauthorized access and kept locked and secured at all times.

6. The landfill owner/operator shall sample all landfill gas compliance monitoring wells at least quarterly, or more frequently if required by the department to protect human health or guide corrective actions.

7. The landfill owner/operator shall measure the following constituents in each landfill gas compliance monitoring well during each sampling event:

- A. Methane concentration (percent methane by volume);
- B. Oxygen concentration (percent oxygen);
- C. Carbon dioxide concentration (percent carbon dioxide);

- D. Atmospheric (barometric) pressure (inches Hg); and
- E. Other constituents if the department determines that conditions at the landfill warrant the need for additional information to protect human health.

8. The landfill owner/operator shall submit all monitoring results electronically to the department within seven (7) days of collection—

A. At least quarterly, or more frequently if required due to detection of methane above limits specified in subsection (13)(C); and

B. In a format and manner prescribed by the department.

*[(14) Gas Control.*

*(A) Requirement. Decomposition gases generated within the sanitary landfill shall be controlled on-site, as necessary, to avoid posing a hazard to the environment or to public health and the safety of occupants of adjacent property.*

*(B) Satisfactory Compliance—Design.*

*1. Plans shall contain a monitoring program capable of detecting decomposition gas migration.*

*A. The monitoring program must specify the type of monitoring and be based on—*

*(I) Soil conditions;*

*(II) The hydrogeologic and topographic conditions surrounding the facility; and*

*(III) The location of facility structures, property boundaries, and off-site features.*

*B. The monitoring program described the plans must include:*

*(I) A written description of the monitoring system, including spacing of monitoring locations and frequency of monitoring;*

*(II) The results of any gas assessment that has been performed;*

*(III) The location of all gas monitoring wells shown on a plan sheet;*

*(IV) A drawing detailing the typical gas monitoring well design;*

*(V) The design depths and bottom elevations of the gas monitoring wells; and*

*(VI) Boring logs that support the design gas monitoring well depths.*

*C. The gas monitoring specified in the plans shall be performed at gas monitoring wells. The monitoring program shall specify how buildings on the landfill property are to be monitored. Gas monitoring wells shall be designed to monitor*

the unsaturated soil and rock down to an elevation equal to the bottom elevation of the landfill. Gas monitoring wells shall be placed between the landfill and off-site buildings and other features that may be harmed by landfill gas or may easily transmit gas from the landfill. Gas monitoring well locations at the property boundary shall not be more than five hundred feet (500') apart unless the permittee can show that the potential for gas migration is low.

2. Plans shall assess the need for gas control and indicate the location and design of any vents, barriers or other control measure to be provided.

A. The gas control system shall be constructed of materials that are chemically resistant to the solid wastes managed in the sanitary landfill and the gas expected to be generated. These materials shall be specified in the engineering report and the choice of materials justified.

B. The gas control system shall be constructed of materials that are of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying solid wastes, cover and by any equipment used at the sanitary landfill. Overburden pressure calculations, material specifications and system installation procedures shall be included in the engineering report.

C. Maintenance and repair options shall be considered in the design and specified in the engineering report.]

(13) **Landfill Gas Collection and Control.** Landfills accepting waste with the potential to generate methane shall be designed to prevent the migration of methane gases generated by the waste fill through an active gas collection and control system to avoid posing a hazard to the health and safety of the public and landfill personnel, or creating a negative impact to the environment. The department may apply some or all of the requirements of this section to the design of any landfill that has ceased accepting waste, if the department determines there is evidence of an existing or potential human health concern or an existing or potential environmental impact, either of which can be attributed to the adverse effects of landfill gas migrating from the landfill. Unless notified otherwise by the department, owners/operators of landfills that are inactive or officially closed shall design the landfill to control methane in accordance with the regulations in effect at the time the landfill ceased receiving waste.

(A) Design.

1. Owners/operators of landfills receiving waste on or after the effective date of this rule shall submit to the department a design for an active landfill gas collection and control system to service areas of the landfill that warrant control, unless such design for an active landfill gas collection and control system has already been submitted and approved by the department. The system shall be designed to prevent the migration of methane through the subsurface into enclosed structures within the permitted boundary and/or onto surrounding properties.

2. The plans for the design and operation of the landfill gas collection and control system shall, at a minimum, include the following:

A. Drawings that show the layout and locations of all landfill gas, gas condensate, and, if applicable, pneumatic control system components and equipment, specifications of all piping systems, locations of all components, trench specifications, and system connections and piping configurations for all components;

B. Calculations verifying design and flow capacity over the intended use of the gas collection and control system;

C. Design specifications for all materials, components, and equipment used in the landfill gas collection and control system;

D. A landfill gas collection well schedule indicating, for each well, the approximate elevation of the landfill surface at the location of the well, the proposed elevation of the top of base liner

at the location of the well, the proposed length of slotted and solid pipe in the well, and the proposed depth of the well;

E. A well construction diagram (cross-section drawing) illustrating the design details for a typical landfill gas collection well, and showing the diameter of the borehole, the material specifications for the well riser, the dimensions and material specifications for the borehole seals, the dimensions and material specifications for the filter pack, and the type of surface completion;

F. Construction diagrams illustrating the design details for all collection points, including but not limited to the horizontal collection trenches, passive systems, or surface collection components;

G. A description of when the system is to be installed in each phase or cell of the landfill, with respect to overall landfill development. Showing the conceptual sequence of installation of the landfill gas collection and control system on the phase development drawings pursuant to subsection (4)(G) of this rule satisfies this requirement; and

[D.]H. All applicable permits and approvals necessary to comply with the requirements of the Missouri Air Conservation Law and rules [promulgated shall be obtained from the department].

[E. The plan shall estimate the maximum anticipated rate of gas generation at the disposal area and the length of time over which it is anticipated to be generated. The method by which these calculations are arrived at shall also be included.

(C) Satisfactory Compliance—Operations.

1. Decomposition gases shall not be allowed to migrate laterally from the sanitary landfill to endanger public health and safety or to pose a hazard to the environment. They shall be controlled on-site, flared or vented to the atmosphere directly through the cover, cut-off trenches or ventilation systems in a way that they do not accumulate in explosive or toxic concentrations, especially within structures. (Information on the limits of flammability of gases is available in such references as the Handbook of Chemistry and Physics, 68th ed. Cleveland, Chemical Rubber Publishing Co., 1987.)

2. Decomposition gases shall not be allowed to concentrate above the following levels:]

3. All landfill gas collection wells installed in waste shall be designed such that the bottom of the well borehole is not less than ten feet (10') above the top of the landfill liner.

4. The owner/operator also shall submit to the department a detailed operating and maintenance plan for the landfill gas collection and control system installed within the landfill footprint, and any landfill gas collection and control systems external to the landfill footprint. The operating and maintenance plan shall address the system(s) in its entirety and each system component individually.

5. The department may approve the use of an alternative gas system design on a case-by-case basis.

(B) Operation.

1. The owner/operator of a landfill shall control landfill gas on site so that it will not accumulate in explosive or toxic concentrations and migrate laterally from the waste footprint to endanger the health of landfill employees or the public, or pose a threat to the environment.

2. The department may require landfill owners to install portions of the approved landfill gas collection and control system, or to install an interim landfill gas collection and control system, in specific areas of the landfill as necessary to control landfill gas.

3. The system shall be adjusted (tuned) as needed to optimize performance. The landfill owner/operator shall, in a timely manner, investigate the reason for reduced performance and

make any necessary adjustment to, repair of, or replacement of a system component or components to return the system performance to optimal levels.

4. The system shall be maintained in accordance with the approved operating and maintenance plan(s).

5. The owner/operator shall inspect all components and portions of the system at least monthly.

6. The leachate level in landfill gas collection wells installed in the waste mass shall be checked and controlled at least quarterly to prevent methane migration and odors and ensure efficient operation of the collection wells.

(C) Methane shall not be allowed to accumulate above the following concentrations:

[A.]1. Twenty-five percent (25%) of the lower explosive limit (LEL) or one and one-quarter percent (1.25%) methane by volume [for methane] in [buildings on] air in enclosed structures within the [sanitary landfill property; and] permitted boundary;

[B.]2. Fifty percent (50%) of the LEL or two and one-half percent (2.5%) by volume for methane in the soil at the property boundary of the [sanitary] landfill[.];

3. For purposes of this section, [lower explosive limit/[LEL/]] means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at twenty-five degrees Celsius (25°C) and atmospheric pressure.

4. Owners/operators of all sanitary landfills shall implement a methane monitoring program capable of detecting decomposition gas migration in the most likely zone(s) of migration, to ensure that the standards of paragraph (14)(C)2. of this rule are met. Methane monitoring shall be conducted at least quarterly with equipment warranted by the manufacturer to detect explosive gases under the conditions the equipment is to be used. Facilities shall submit the results of this methane monitoring to the department at least quarterly. The electronic submission of methane monitoring data is required. This submission shall be in a format and manner as prescribed by the department.

5. If methane gas levels exceeding the limits specified in paragraph (14)(C)2. of this rule are detected, the owner/operator shall—

A. Notify the department and immediately take all necessary steps to ensure protection of public health and safety which include:

(I) When results of monitoring in on-site or off-site structures indicate levels in excess of those specified, the operator shall take appropriate action to mitigate the effects of landfill gas accumulation in those structures until a permanent remediation is completed. Actions which must be undertaken include:

(a) Notification of the fire department or other appropriate local public safety authorities;

(b) Notification of adjacent property owners and/or occupants;

(c) Ventilation of any confined spaces that may trap decomposition gases or the installation of alarm systems in any confined spaces that may trap decomposition gases; and

(d) Establishment of a temporary methane monitoring program in affected structures.

B. Within seven (7) days of detection, submit to the department a report describing the steps taken to protect public health and safety;

C. Within sixty (60) days of detection, submit to the department for approval a remediation plan designed by a professional engineer for the methane gas releases. A gas control system shall be designed to—

(I) Prevent methane accumulation in on-site and off-site buildings;

(II) Reduce methane concentrations at monitored

property boundaries to below compliance levels; and

(III) Reduce methane concentrations off-site to below compliance levels;

D. Landfill gas corrective action plans shall describe the nature and extent of the problem and the proposed remedy. The plan shall be implemented upon departmental approval; and

E. The department may establish alternative schedules for demonstrating compliance with subparagraphs (14)(C)5.B. and C. of this rule.

6. The sanitary landfill shall operate in compliance with all applicable requirements of Chapter 643, RSMo and corresponding rules.]

(14) Landfill Gas Corrective Action. In the event methane or other landfill gases are detected migrating from the landfill waste footprint and accumulating above the concentrations specified in this rule, the landfill owner/operator shall take immediate action to protect the health and safety of the public and landfill personnel and any threat to the environment. The owner/operator shall then take appropriate and timely corrective actions to control the landfill gas and alleviate the migration of methane onto any surrounding properties, or into enclosed structures or underground utility structures, as the situation warrants.

(A) Corrective Action. The landfill owner/operator shall take the following actions upon detection of elevated methane concentrations in structures and in the soil at the property boundary of the landfill.

1. Once the determination has been made to keep people out of any structure or away from any area, immediately notify the following parties that methane gas exceedance has been discovered:

A. Fire department or local emergency management personnel;

B. The department; and

C. Owners and occupants of properties within one thousand feet (1000') of any compliance monitoring well exhibiting concentrations above the limit(s) provided in (13)(C) of this rule.

2. For concentrations of landfill gas(es) detected in on- or off-site structures, or both, above the limit(s) provided in (13)(C) of this rule, immediately take all appropriate actions to mitigate the effects of landfill gas accumulation in those structures until a permanent remediation is completed. These corrective actions may include, but are not limited to:

A. Emergency actions required by the fire department or local emergency management personnel, as needed, to protect employee, and human health and safety;

B. Ventilate any confined spaces that may trap landfill gases or install landfill gas detectors in confined spaces that may accumulate landfill gases; and

C. Establish a temporary landfill gas monitoring program in affected structures using an increased monitoring frequency from the frequency in (12)(D)8. of this rule.

3. Once methane migration has been confirmed, the department may establish alternative, more frequent, schedules for monitoring, notification, and implementation of corrective actions, as needed, to protect the health and safety of landfill employees, the public, and the environment.

4. Within seven (7) days of detection, submit to the department a report describing the notification process and steps taken to protect employee and public health and safety;

5. Within forty-five (45) days of detection, submit to the department for approval a corrective action plan designed by a professional engineer to address the gas migration. The plan shall investigate the reason for the migration, describe the nature and extent of the migration, and propose a remedy to correct the migration. The department shall approve or disapprove the plan within fourteen (14) days of receipt.

6. If the landfill is experiencing ongoing methane gas migration, the owner/operator shall notify the department:

A. Within twenty-four (24) hours of discovering that the landfill gas collection and control system has been damaged, that a complete failure has occurred, or that a significant portion of the system has been taken out of service as a result of a malfunction; and

B. At least seven (7) days in advance of any scheduled activity that requires taking all or part of the landfill gas collection and control system off line or out of service for longer than twenty-four (24) hours if the landfill has methane gas migration.

7. If upon completion of the department's review of the corrective action plan, the department finds the plan does not provide sufficient data to support the corrective actions proposed in the plan, the department shall deny the plan. The landfill owner/operator shall submit a revised corrective action plan within thirty (30) days of the department's denial of the original corrective action plan.

8. Once the corrective action plan has been approved by the department, the landfill owner/operator shall implement the plan within one hundred and twenty (120) days or an alternative timeframe approved by the department, monitor results of corrective actions taken, analyze and report to the department on the impact of corrective actions taken, and continue to propose and implement approved corrective actions until the methane gas concentrations fall to within compliance limits.

9. When the methane concentrations in all landfill gas compliance wells fall to below limits provided in (13)(C) of this rule and remain there for longer than one (1) month's time, the department will allow the resumption of a gradually reduced monitoring frequency. After one year of methane concentrations remaining below the limits provided in (13)(C) of this rule, the landfill owner/operator may petition and receive approval from the department to return to a quarterly landfill gas monitoring schedule.

(15) Vectors.

*[(A) Requirements. Conditions shall be maintained]* The landfill owner/operator shall operate and maintain the landfill in a manner that *[are]* is unfavorable for the harboring, feeding, and breeding of vectors and immediately implement those procedures when vectors are first observed.

*[(B) Satisfactory Compliance—Design. Plans]* The landfill operating manual shall include contingency *[programs]* plans for vector control, and the owner/operator shall be prepared *[at all times]* to immediately implement those procedures.

*[(C) Satisfactory Compliance—Operations. Vector control contingency programs shall be implemented]* when *[necessary to prevent or rectify vector problems]* vectors are observed.

(16) Aesthetics.

*[(A) Requirement.]* The sanitary, demolition, or special waste landfill owner/operator shall *[be designed and operated at all times]* operate the landfill in an aesthetically acceptable manner.

*[(B) Satisfactory Compliance—Design. Plans shall include an effective litter control facility and operating program.]*

*[(C) Satisfactory Compliance—Operations.]*

1. Portable litter fences or other devices shall be used in the immediate vicinity of the working face and at other appropriate locations to control blowing litter. At the end of each operating day, or more often as required, litter shall be removed from the fences and the ground and incorporated into the cell being used. Alternatively, the litter may be containerized for disposal on the next operating day.

*[2.](B) [Solid w]*Wastes that are easily moved by wind shall be covered, as necessary, to prevent becoming airborne and scattered~~./~~, and the landfill shall employ effective litter control methods and

best management practices to prevent litter from leaving the permitted area of the landfill.

*[3.](C)* On-site vegetation should be cleared only as necessary. Natural windbreaks, such as green belts, should be maintained where they will reduce noise, dust, and odors, and improve the appearance and operation of the *[sanitary]* landfill.

*[4. Salvage operations shall be conducted in such a manner as to not detract from the appearance of the sanitary landfill. Salvaged materials shall be removed from the sanitary landfill daily or stored in aesthetically acceptable containers or enclosures.]*

(17) Cover.

*[(A) Requirement.]* Cover shall be applied at the landfill to minimize fire hazards, infiltration of precipitation, odors and blowing litter; control gas venting and vectors; discourage scavenging; and provide a pleasing appearance.

*[(B) Satisfactory Compliance—Design.]* The owner/operator shall *[prepare]* include in the landfill's operating plan a description of daily and intermediate cover at the landfill and also submit a written closure/post-closure plan that *[describes the steps necessary to close all sanitary landfill phases at any point during the active life of]* includes the *[sanitary landfill]* design and construction of a final cover system over each phase or cell as it reaches the approved final elevation, in accordance with *[the requirements of 10 CSR 80-2.030(4)(A). In addition, the final cover requirements specified in the closure and post-closure plans]* this rule.

1. The operating plan shall *[specify—]* include:

*[1.](A) [Cover]* The proposed cover sources, quantities, and soil classifications (Unified Soil Classification System or United States Department of Agriculture classification system)~~./~~. Soil classification is not necessary for soils used for daily and intermediate cover;

*[2.](B)* The capability of the cover to perform the functions listed *[in subsection (17)(A) of this rule]* above; and

C. Design, construction, and operations that ensure active, intermediate, and final slopes shall not exceed thirty-three and one-third percent (33 1/3%);

2. The closure/post-closure plan shall include:

A. A description of how the operating plan shall prepare the landfill for closure and the procedures to establish and maintain vegetative growth to combat erosion and improve appearance of idle and completed areas, include fertilizer rate, soil conditioning rate, seeding rate, and provisions for mulching;

B. Procedures to maintain cover integrity, for example, regrading and recovering;

C. Methods for borrow areas to be reclaimed on site so as to restore aesthetic qualities and prevent excessive erosion;

D. Provisions for construction of the final slope of the top of the landfill to have a minimum slope of five percent (5%);

*[3.](E) [Surface grades and side slopes needed to]* A design of the final side slopes to minimize infiltration, promote *[maximum]* runoff~~./~~, without excessive erosion, *[to minimize infiltration. Final side slopes shall]* and not to exceed twenty-five percent (25%), unless it has been demonstrated in a detailed slope stability analysis approved by the department that the slopes can be constructed and maintained throughout the entire operational life and post-closure period of the landfill~~./~~;

*[4. Procedures to establish and maintain vegetative growth to combat erosion and improve appearance of idle and completed areas. Procedures shall include seeding rate, fertilizer rate, soil conditioning rate and provisions for mulching;*

*5. Procedures to maintain a cover integrity, for example, regrading and recovering;*

*6. Methods for borrow areas to be reclaimed so as to restore aesthetic qualities and prevent excessive erosion;*

7. The final slope of the top of the sanitary landfill shall have a minimum slope of five percent (5%); and

[8.]F. Shear failure analyses [shall be included] where intermediate or final slopes exceed twenty-five percent (25%). However, the department will waive the analysis for slopes of twenty-five percent (25%) or less, except in seismic impact zones[.];

[(C) Satisfactory Compliance—Operations.

1. Cover shall be applied by the end of each operating day regardless of weather; sources of cover, therefore, shall be accessible on all operating days. The thickness of the compacted cover shall not be less than six inches (6"). Sanitary landfills operating twenty-four (24) hours per day shall incorporate all solid waste into one (1) or more cells at least every twenty-four (24) hours. Where a liner and leachate collection system are in place, an alternative daily cover may be approved by the department on a site-specific basis, if the owner/operator demonstrates that the alternative material controls run-on, runoff, disease vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health and the environment.

2. Cover shall be increased to a total thickness of at least one foot (1') of compacted cover on filled areas of the sanitary landfill which are idle for more than sixty (60) days.

3. No active, intermediate or final slope shall exceed thirty-three and one-third percent (33 1/3%).

4. As each phase of the sanitary landfill is completed, a final cover system shall be installed at portions of—]

G. The design and installation of the geomembrane liner, which is to be in intimate contact with the underlying compacted clay;

H. The design and installation of the final cover system(s) and provisions for slope stability; and

I. A final cover system installation schedule as each phase of the landfill reaches approved elevations.

[A.]3. [Existing] For [sanitary] landfills with[out] composite liners[.], final cover shall be designed and constructed in composite layers, in order from top to bottom, as follows:

A. Two feet (2') of soil capable of sustaining vegetative growth;

B. A drainage layer;

C. A geomembrane liner at least as thick as the minimum thickness specified in subsection (4)(I); and

D. One foot (1') of compacted soil with a coefficient of permeability of  $1 \times 10^{-5}$  cm/sec or less;

4. For existing landfills without composite liners, [This] the final cover shall consist of at least two feet (2') of compacted [clay with] soil with a coefficient of permeability of  $1 \times 10^{-5}$  cm/sec or less and overlaid by at least one foot (1') of soil capable of sustaining vegetative growth[.];

[B. Sanitary landfills with composite liners. This final cover shall consist of component layers, in order from top to bottom, as follows:

(I) Two feet (2") of soil capable of sustaining vegetative growth;

(II) A drainage layer;

(III) A geomembrane liner at least as thick as the geomembrane liner described in subparagraph (10)(B)1.G.;

(IV) One foot (1") of compacted clay with a coefficient of permeability of  $1 \times 10^{-5}$  cm/sec or less; and

C. The geomembrane liner shall be in intimate contact with the underlying compacted clay.

5. The installation of the final cover systems shall include provisions for slope stability.]

(C) Operations – Cover.

1. For sanitary landfills, no less than six inches (6") of cover shall be applied by the end of each operating day, regardless of weather, unless an alternative is approved by the department. The practice of peeling back and reusing cover is an approved

practice so long as the methodologies and practice is contained in the operating plan. Sanitary landfills operating twenty-four (24) hours per day shall cover the waste at least once every twenty-four (24) hours.

2. For demolition landfills, no less than twelve inches (12") of cover shall be applied at least once at the end of each operating week or immediately before the facility closes if the facility is to be closed for more than twenty-four (24) hours.

3. Alternative daily cover.

A. An alternative daily cover may be approved by the department on a site-specific basis, if the landfill owner/operator demonstrates that the alternative material controls storm water run-on and runoff and prevents disease, vectors, fires, odors, and blowing litter, without presenting a threat to human health and the environment.

B. In the event the use of an alternative daily cover is approved by the department, the landfill owner/operator shall make all efforts to ensure that the use of alternative daily cover does not contribute to increased odor generation, leachate generation, litter blowing from the working face, or attraction of vectors.

4. Surface grades and side slopes shall be constructed and maintained to promote runoff without excessive erosion.

5. Re-grading and recovering shall be performed as necessary, followed by re-establishing vegetation, to maintain landfill cover, slope, and integrity.

6. In areas of the landfill where waste has not been accepted for more than sixty (60) days, cover shall be increased to a total thickness of at least one foot (1') of compacted cover, and steps taken to seed and encourage vegetative growth.

7. All final side slopes and the slope of the top of the landfill shall be constructed with provisions for slope stability and subsequently maintained to comply with the landfill's approved closure/post-closure plan.

8. Final cover at the landfill shall be constructed and installed in accordance with the landfill's approved closure/post-closure plan.

[6.]9. The department may approve the use of an alternative final cover system provided that the owner/operator can demonstrate to the department that the alternative design will be at least equivalent to the final cover system described in [paragraph (17)(C)3. of] this rule.

[7. Surface grades and side slopes shall be maintained to promote runoff without excessive erosion.]

10. Borrow areas shall be reclaimed in accordance with the approved plans.

[8.]11. Vegetation shall be established within one [hundred eighty (180) days of application of the cover required by paragraphs (17)(C)2. and 3. of this rule. Vegetation shall be] (1) year or other schedule approved by the department and maintained and re-established [and maintained to minimize erosion and] as necessary to achieve greater than eighty percent (80%) coverage to protect the landfill cap and prevent surface water infiltration.

[9. Regrading and recovering shall be performed as necessary to maintain cover slope and integrity.

10. Borrow areas shall be reclaimed in accordance with the approved plans.

11. The compacted clay portion of the final cover shall consist of soils classified under the Unified Soil Classification System as CH, CL, ML, SC or MH.]

(18) Compaction.

(A) [Requirement.] In order to conserve sanitary, demolition, or special waste landfill site capacity, thereby preserving land resources and minimizing moisture infiltration and settlement, solid waste and cover shall be compacted to the smallest practicable volume.

[(B) Satisfactory Compliance—Design.

1. Arrangements shall be made and indicated in the plans where substitute equipment will be available to provide uninterrupted service during routine maintenance periods or equipment breakdowns.

2. The plans shall specify the equipment that should be available to conduct the sanitary landfill operation at the projected solid waste loading.

(C) Satisfactory Compliance—Operations.

1. Solid waste handling equipment, on any operating day shall be capable of performing and shall perform the following functions:

A. Spread the solid wastes to be compacted in layers no more than two feet (2') thick, while confining it to the smallest practicable area;

B. Compact the spread solid wastes to the smallest practicable volume; and

C. Place, spread and compact the cover as much as practicable.

2. A preventive maintenance program should be employed to maintain equipment in operating order.

3. No solid waste shall be disposed of in water where the presence of the water will prohibit the proper spreading and compaction of the solid waste or where a mosquito breeding problem would be created.]

(B) The size of the working face shall be kept to a minimum.

(C) Equipment shall be maintained on site or readily available to ensure uninterrupted operations.

(19) Safety.

[(A) Requirement.] The sanitary, **demolition, or special waste** landfill shall be designed, constructed, and operated [in a manner so as] to protect the health and safety of **landfill** personnel and [others associated with and affected by the operation] **the public**.

[(B) Satisfactory Compliance—Design.]

[1.](A) [Provisions] **The landfill's operating plan** shall [be included in the plans] **include provisions** to control [and limit] access to **and traffic on to** the [sanitary] landfill in a manner that is compatible with the surrounding land use.

[2.](B) Provisions shall be included in the plans to control dust, [for safety purposes and to prevent a nuisance to the surrounding area.] **address emergency situations, and promote orderly operations. These provisions shall be revised as necessary to keep them up-to-date and relevant to the current landfill operations.**

[3. The plans shall specify the facilities and methods to be provided for extinguishing fires.

(C) Satisfactory Compliance—Operation.

1. A fire extinguisher shall be provided on all solid waste handling equipment.

2. Any fires in wastes being delivered to the sanitary landfill or which occur at the working face or within equipment or personnel facilities shall be extinguished.

3. Adequate communications equipment shall be available at the sanitary landfill for emergency situations.

4. Scavenging shall be prohibited at all times to avoid injury and to prevent interference with sanitary landfill operations.

5. Access to the sanitary landfill shall be controlled and shall be by established roadways only. The sanitary landfill shall be accessible only when operating personnel are on duty. Large containers may be placed at the sanitary landfill entrance so that users can conveniently deposit solid waste after hours. The containers and the areas around them shall be maintained in a sanitary and litter-free condition.

6. Traffic signs or markers should be provided to promote an orderly traffic pattern to and from the discharge area and, if necessary, to restrict access to hazardous areas

or to maintain efficient operating conditions. Drivers of manually discharging vehicles should not hinder operation of mechanically discharging vehicles. Vehicles should not be left unattended at the working face or along traffic routes. If a regular user persistently poses a safety hazard, s/he should be barred from the sanitary landfill.]

(C) Scavenging is prohibited at all times at the landfill.

[7.](D) [Dust] The landfill owner/operator shall employ dust control provisions [shall be utilized] as necessary for safety purposes and to prevent a nuisance to the surrounding area.

(E) Adequate communications equipment shall be available for use by landfill personnel.

(F) The landfill owner/operator shall prepare a plan of procedures to implement in the event of emergencies that occur at the landfill, including but not limited to, slope failure or firefighting. The owner/operator shall make the plan available to landfill personnel to provide them with the appropriate emergency contact information and delegation of authority to implement during each such emergency event.

(G) A fire extinguisher shall be provided on all waste handling equipment.

(H) A hot load area shall be established to contain loads that arrive with hotspots or open flames.

(I) Any fires discovered in wastes delivered to the landfill shall be extinguished away from the working face, whenever possible.

(J) Any surface fire discovered at the working face or subsurface fire, oxidation, or smoldering event shall be extinguished immediately; the landfill owner/operator shall notify the department as soon as it has been discovered.

(20) Records.

(A) [Requirement.] The owner/operator of a [sanitary] landfill shall maintain records and monitoring data as specified by the department and file appropriate documents with the county recorder(s) of deeds.

[(B)]1. [Satisfactory Compliance—Design. Plans] **The landfill owner/operator** shall [prescribe] **describe the methods [to be used in] for creating and maintaining records of operations and monitoring [the environmental impact of] at the [sanitary] landfill. [Information on recording and monitoring requirements may be obtained from the department.]**

[(C) Satisfactory Compliance—Operations.]

[1.]2. **Current [R]records** shall be maintained at the landfill office. Records five (5) years old or older may be stored **electronically or off-site** at an alternate site if approved by the department; such [stored] records must be made available [at] to the [landfill] **department** upon request [of department personnel. Records must cover at least the following:]

3. **The landfill files may be maintained on electronic media and shall include the following records, at a minimum:**

A. **Copies of approved permit documents and current permits;**

[A.]B. Major operational problems, complaints, or difficulties; **and any corrective actions taken;**

[B.]C. Gas monitoring results from monitoring and any [remediation] **corrective action plans [required under section (14) of this rule] being implemented;**

[C.]D. Any demonstration, certification, finding, monitoring, testing, or analytical data [required under sections (4) and (11) of this rule];

[D.]E. [Vector control] **Housekeeping records to summarize efforts[;**

E. **Dust] taken for vector, dust, odor, and litter control [efforts];**

F. Quantitative measurements of the solid waste handled and an estimate of the air space left at the facility. [Every two (2)] **By January 31st, on even numbered years [after the date of the permit issuance and within sixty (60) days of the anniversary**

date of the permit issuance], the owner/operator shall submit to the department two (2) copies of a topographic map **prepared during the previous calendar year**, prepared under the direction of a land surveyor or by aerial photography, showing the current horizontal and vertical boundaries of solid waste in the [sanitary] landfill, the boundaries of the [sanitary] landfill. *Maps prepared*, and a **form provided** by [aerial photography shall meet the current National Map Accuracy Standards for Photogrammetry as indicated] the department listing airspace filled in [United States Bureau of the Budget "Circular A-16 Exhibit C," dated October 10, 1958] the preceding period;

G. Description, source, and volume of special wastes that are received;

H. Any [sanitary] landfill design documentation for recirculation of leachate or gas condensate in a landfill, as applicable;

I. Closure and post-closure care plans and any associated monitoring, testing, or analytical data [as required under 10 CSR 80-2.030(4)(A)];

J. [Any] **Most recently approved** cost estimates and financial assurance documentation [required under 10 CSR 80-2.030(4)(B) and (C)];

K. Inspection records and training procedures [as required under 10 CSR 80-2.060 and subsection (3)(B) of this rule], including screening for excluded wastes;

L. Records associated with **tonnage fees** [as required under 10 CSR 80-2.080(2)]; and

[M. Records associated with corrective measures as required under section (10) of this rule; and]

[N.]M. [Effective January 1, 1998, o]On or before January 31 of each calendar year and annually thereafter each solid waste disposal area shall submit a report to the department specifying the amount of solid waste received for disposal from states other than Missouri. [The landfill operator shall keep a detailed report of the origin of all waste received.]

[2.](B) [Upon closing of the sanitary] Once a landfill[,] ceases accepting waste, the landfill owner shall record the existence of the [sanitary] landfill [shall be recorded] with the recorder(s) of deeds in the county(ies) where the [sanitary] landfill is located. The owner/[operator] may request permission from the department to remove the notation from the deed if all wastes are removed from the [facility] landfill.

[A.]1. After the landfill ceases accepting waste, the owner/operator shall obtain a land surveyor to prepare [A/a] survey and plat meeting the requirements of the current Minimum Standards of Property Boundary Survey [10]2 CSR [30-2.010]90 and a detailed description of the [sanitary] landfill [shall be prepared by a land surveyor]. The survey plat and detailed description, at a minimum, shall contain the following information:

[(I)]A. The name of the property owner as it appears on the property deed;

[(III)]B. The detailed description of the property;

[(III)]C. The general types and location of the solid wastes and the depth(s) of fill within the property; [and]

[(V)]D. The location of any leachate [control] collection system, gas collection and control [or] system, and existing gas, surface water, groundwater monitoring system(s) which shall be maintained after closure and the length of time that these systems are to be maintained[.]; and

E. The permitted name and permit number(s) of the landfill.

[B.]2. The owner/[operator] shall—

A. **Submit to and** obtain approval from the department of the survey plat and detailed description [prior to filing with the county recorder of deeds. After receiving approval from the department and before filing with the county recorder of deeds, the detailed description shall be];

B. **Have the approved plat** notarized by a lawful notary public[.];

C. [Filing] File the [notarized] approved survey plat [or] and detailed description [shall be accomplished] with the county recorder(s) of deeds within thirty (30) days of departmental approval[.]; and

D. **Submit to the department within thirty (30) days of the date of filing**, [T]two (2) copies of the notarized and properly recorded plat [or] and detailed description showing the recorder(s) of deeds' seal(s) or stamp(s), the book and page numbers, and the date of filing [shall be submitted to the department within thirty (30) days of the date of filing].

[C. Owners of solid waste disposal areas permitted prior to January 1, 1987, and which close after January 1, 1989, as a part of closure of the solid waste disposal area shall—

(I) Execute an easement with the department, which allows the department, its agents or its contractors to enter the premises to complete work specified in the closure plan, to monitor or maintain the solid waste disposal area or take remedial action during post-closure period; and

(II) Submit evidence to the department that a notice and covenant running with the land has been recorded with the recorder of deeds in the county where the sanitary landfill is located. The notice and covenant shall specify the following:

(a) That the property has been permitted as a sanitary landfill; and

(b) That use of the land in any manner which interferes with closure plans, and post-closure plans filed with the department, is prohibited.]

#### (21) Bioreactor Permits and Bioreactor Permit Modifications for Sanitary Landfills.

(A) The department may issue a permit or a permit modification to allow an owner/operator to design, construct, and operate a sanitary landfill as a bioreactor (bioreactor permit), utilizing innovative and new designs and/or operations which vary from specific criteria listed in this rule, provided the landfill systems are designed and operated in a manner protective of human health and the environment.

(B) For a proposed bioreactor at a new sanitary landfill, the design plans shall address all elements of landfill design, construction, and operation outlined in this rule, with special consideration for the effects of increased moisture content of the waste mass.

(C) For a proposed bioreactor at an existing sanitary landfill, the design plans shall include an assessment of all previously approved aspects of design, construction, and operation. Sanitary landfill systems and components shall be redesigned, construction procedures shall be developed, and all operating, monitoring, and quality control plans shall be revised, as necessary, with special consideration for bioreactor operations and the effects of increased moisture content of the waste mass.

(D) In addition, each bioreactor permit application shall include—

1. An explanation of the objectives of the research, development, and demonstration project;

2. Detailed explanations of the methods and procedures that will be used to add liquids, if applicable;

3. Detailed water balance calculations;

4. Detailed construction QA/QC procedures for all liquids addition systems;

5. A detailed operating and maintenance plan prepared as an addendum to the landfill's operating manual which includes:

A. Operating procedures for all bioreactor systems and other systems whose operation could be affected by the increased moisture, including but not limited to:

(I) All liquids addition systems;

(II) Leachate management systems; and

**(III) Landfill gas collection and control systems; and**

**B. A detailed plan for inspecting all landfill control and monitoring systems and maintaining accurate records of each inspection;**

**6. Provisions for leak testing of the geomembrane component of the composite liner system following installation; and**

**7. Facility designs that maintain a depth of leachate of less than one foot (1') on the landfill liner.**

**(22) Special Waste Landfills.**

**(A) Should an owner/operator request to permit a special waste landfill, the owner/operator shall include a list identifying what sections of this rule are and are not applicable to the landfill, as well as detailed discussion explaining how that determination was made. For special waste landfills in operation at the time of the effective date of this rule, the facility has until January 31, 2020, to submit a modification stating which parts of this rule are applicable and a detailed discussion explaining the rationale and for excluding certain requirements.**

**(B) The department may require any special waste landfill owner/operator to design, construct, operate, and maintain the landfill in accordance with any sanitary landfill requirement to ensure the protection of human health and the environment.**

**Appendix I—Constituents for Detection Monitoring for Sanitary Landfills****Indicator Constituents**

**Chemical Oxygen Demand (COD in milligrams per liter (mg/l));**

**Chlorides (Cl, (mg/l)) dissolved;**

**pH (units);**

**Specific Conductance (Conductivity at twenty-five degrees**

**Celsius (25°C) in micromhos per centimeter ( $\mu\text{mho/cm}$ ));**

**Total Dissolved Solids (TDS, (mg/l)); and**

**Inorganic Constituents**

Ammonia (NH<sub>3</sub> as N, mg/l)

Antimony (Sb,  $\mu\text{g/l}$ )

Arsenic (As,  $\mu\text{g/l}$ )

Barium (Ba,  $\mu\text{g/l}$ )

Beryllium (Be,  $\mu\text{g/l}$ )

Boron (B,  $\mu\text{g/l}$ )

Cadmium (Cd,  $\mu\text{g/l}$ )

Calcium (Ca, mg/l)

Chromium (Cr,  $\mu\text{g/l}$ )

Cobalt (Co,  $\mu\text{g/l}$ )

Copper (Cu,  $\mu\text{g/l}$ )

Fluoride (F, mg/l)

Hardness (calculated, mg/l)

Lead (Pb,  $\mu\text{g/l}$ )

Magnesium (Mg, mg/l)

Manganese (Mn,  $\mu\text{g/l}$ )

[Mercury (Hg,  $\mu\text{g/l}$ )]

Nickel (Ni, mg/l)

Nitrate/Nitrite (NO<sub>3</sub>/NO<sub>2</sub>, mg/l)

Phosphorus (total P, mg/l)

Selenium (Se,  $\mu\text{g/l}$ )

Silver (Ag,  $\mu\text{g/l}$ )

Sodium (Na, mg/l)

Sulfate (SO<sub>4</sub>, mg/l)

Thallium (Tl,  $\mu\text{g/l}$ )

Total Organic Carbon (TOC, mg/l)

Vanadium (V,  $\mu\text{g/l}$ )

Zinc (Zn,  $\mu\text{g/l}$ )

**Organic Constituents**

Acetone

Acrylonitrile

Benzene

Bromochloromethane

Bromodichloromethane

Bromoform; Tribromomethane

Carbon disulfide

Carbon tetrachloride

Chlorobenzene

Chloroethane; Ethyl chloride

Chloroform; Trichloromethane

Dibromochloromethane; Chlorodibromomethane

1,2-Dibromo-3-chloropropane; DBCP

1,2-Dibromoethane; Ethylene dibromide; EDB o-Dichlorobenzene;

1,2-Dichlorobenzene

p-Dichlorobenzene; 1,4-Dichlorobenzene trans-1,4-Dichloro-2-butene

1,1-Dichloroethane; Ethylidene chloride

1,2-Dichloroethane; Ethylene dichloride

1,1-Dichloroethylene; 1,1-Dichloroethene;

Vinylidene chloride

cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene

trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene

1,2-Dichloropropane; Propylene dichloride

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

Ethylbenzene

2-Hexanone; Methyl butyl ketone

Methyl bromide; Bromomethane

Methyl chloride; Chloromethane

Methylene bromide; Dibromomethane

Methylene chloride; Dichloromethane

Methyl ethyl ketone; MEK; 2-Butanone

Methyl iodide; Iodomethane

4-Methyl-2-pentanone; Methyl isobutyl ketone

Styrene

1,1,1,2-Tetrachloroethane

1,1,2,2-Tetrachloroethane

Tetrachloroethylene; Tetrachloroethene;

Perchloroethylene

Toluene

1,1,1-Trichloroethane; Methylchloroform

1,1,2-Trichloroethane

Trichloroethylene; Trichloroethene

Tichlorofluoromethane; CFC-11

1,2,3-Trichloropropane

Vinyl acetate

Vinyl chloride

Xylenes

**Appendix II—List of Hazardous Inorganic and Organic Constituents<sup>1</sup> for Assessment Monitoring for Sanitary Landfills**

<b>Common Name<sup>2</sup></b>	<b>CAS RN<sup>3</sup></b>
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Acetone	67-64-1
Acetonitrile; Methyl cyanide	75-05-8
Acetophenone	98-86-2
2-Acetylaminofluorene; 2-AAF	53-96-3
Acrolein	107-02-8
Acrylonitrile	107-13-1
Aldrin	309-00-2
Allyl chloride	107-05-1
4-Aminobipheny	192-67-1
Anthracene	120-12-7
Antimony	(Total)
Arsenic	(Total)
Barium	(Total)
Benzene	71-43-2
Benzo[a]anthracene; Benzanthracene	56-55-3

Benzo[b]fluoranthene	205-99-2	3,3'-Dichlorobenzidine	91-94-1
Benzo[k]fluoranthene	207-08-9	trans-1,4-Dichloro-2-butene	110-57-6
Benzo[ghi]perylene	191-24-2	Dichlorodifluoromethane; CFC 12;	75-71-8
Benzo[a]pyrene	50-32-8	1,1-Dichloroethane; Ethyldidene	
Benzyl alcohol	100-51-6	chloride	75-34-3
Beryllium	(Total)	1,2-Dichloroethane; Ethylene	
alpha-BHC	319-84-6	dichloride	107-06-2
beta-BHC	319-85-7	1,1-Dichloroethylene;	
delta-BHC	319-86-8	1,1-Dichloroethene; Vinylidene	
gamma-BHC; Lindane	58-89-9	chloride	75-35-4
Bis(2-chloroethoxy)methane	111-91-1	cis-1,2-Dichloroethylene;	
Bis(2-chloroethyl) ether;	111-44-4	cis-1,2-Dichloroethene	156-59-2
Dichloroethyl ether		trans-1,2-Dichloroethylene	
Bis(2-chloro-1-methylethyl) ether;	108-60-1	trans-1,2-Dichloroethene	156-60-5
2,2'-Dichlorodiisopropyl ether;		2,4-Dichlorophenol	120-83-2
DCIP	See Note 3	2,6-Dichlorophenol	87-65-0
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Dichloropropane;	
Bromochloromethane;		Propylene dichloride	78-87-5
Chlorobromomethane	74-97-5	1,3-Dichloropropane;	
Bromodichloromethane;		Trimethylene dichloride	142-28-9
Dibromochloromethane	75-27-4	2,2-Dichloropropane;	
Bromoform; Tribromomethane	75-25-2	Isopropylidene chloride	594-20-7
4-Bromophenylphenyl ether	101-55-3	1,1-Dichloropropene	563-58-6
Butyl benzyl phthalate;		cis-1,3-Dichloropropene	10061-01-5
Benzyl butyl phthalate	85-68-7	trans-1,3-Dichloropropene	10061-02-6
Cadmium	(Total)	Dieldrin	60-57-1
Carbon disulfide	75-15-0	Diethyl phthalate	84-66-2
Carbon tetrachloride	56-23-5	O,O-Diethyl O-2-pyrazinyl	
Chlordane	See Note 4.	phosphorothioate; Thionazin	297-97-2
p-Chloroaniline	106-47-8	Dimethoate	60-51-5
Chlorobenzene	108-90-7	p-(Dimethylamino)azobenzen	60-11-7
Chlorobenzilate	510-15-6	7,12-Dimethylbenz[a]ntracene	57-97-6
p-Chloro-m-cresol;		3,3'-Dimethylbenzidine	119-93-7
4-Chloro-3-methylphenol	59-50-7	2,4-Dimethylphenol; m-Xylenol	105-67-9
Chloroethane; Ethyl chloride	75-00-3	Dimethyl phthalate	131-11-3
Chloroform; Trichloromethane	67-66-3	m-Dinitrobenzene	99-65-0
2-Chloronaphthalene	91-58-7	4,6-Dinitro-o-cresol	
2-Chlorophenol	95-57-8	4,6-Dinitro-2-methylphenol	534-52-1
4-Chlorophenyl phenyl ether	7005-72-3	2,4-Dinitrophenol;	51-28-5
Chloroprene	126-99-8	2,4-Dinitrotoluene	121-14-2
Chromium	(Total)	2,6-Dinitrotoluene	606-20-2
Chrysene	218-01-9	Dinoseb; DNBP;	
Cobalt	(Total)	2-sec-Butyl-4,6-dinitrophenol	88-85-7
Copper	(Total)	Di-n-octyl phthalate	117-84-0
m-Cresol; 3-methylphenol	108-39-4	Diphenylamine	122-39-4
o-Cresol; 2-methylphenol	95-48-7	Disulfoton	298-04-4
p-Cresol; 4-methylphenol	106-44-5	Endosulfan I	959-98-8
Cyanide	57-12-5	Endosulfan II	33213-65-9
2,4-D; 2,4-Dichlorophenoxyacetic		Endosulfan sulfate	1031-07-8
acid	94-75-7	Endrin	72-20-8
4,4'-DDD	72-54-8	Endrin aldehyde	7421-93-4
4,4'-DDE	72-55-9	Ethylbenzene	100-41-4
4,4'-DDT	50-29-3	Ethyl methacrylate	97-63-2
Diallate	2303-16-4	Ethyl methanesulfonate	62-50-0
Dibenz[a,h]anthracene	53-70-3	Famphur	52-85-7
Dibenzofuran	132-64-9	Fluoranthene	206-44-0
Dibromochloromethane;		Fluorene	86-73-79
Chlorodibromomethane	124-48-1	Heptachlor	76-44-8
1,2-Dibromo-		Heptachlor epoxide	1024-57-3
3-chloropropane;DBCP	96-12-8	Hexachlorobenzene .	118-74-1
1,2-Dibromoethane; Ethylene	106-93-4	Hexachlorobutadiene	87-68-3
dibromide; EDB		Hexachlorocyclopentadiene	77-47-4
Di-n-butyl phthalate	84-74-2	Hexachloroethane	67-72-1
o-Dichlorobenzene;		Hexachloropropene	1888-71-7
1,3-Dichlorobenzene	95-50-1	2-Hexanone; Methyl butyl ketone	591-78-6
m-Dichlorobenzene;		Indeno(1,2,3-cd)pyrene	193-39-5
1,3-Dichlorobenzene	541-73-1	Isobutyl alcohol	78-83-1
p-Dichlorobenzene;		Isodrin	465-73-6
1,4-Dichlorobenzene	106-46-7		

Isophorone	78-59-1
Isosafrole	120-58-1
Kepone	143-50-0
Lead	(Total)
Mercury	(Total)
Methacrylonitrile	126-98-7
Methapyrilene	91-80-5
Methoxychlor	72-43-5
Methyl bromide; Bromomethane	74-83-9
Methyl chloride; Chloromethane	74-87-3
3-Methylcholanthrene	56-49-5
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
Methyl iodide; Iodomethane	74-88-4
Methyl methacrylate	80-62-6
Methyl methanesulfonate	66-27-3
2-Methylnaphthalene	91-57-6
Methyl parathion; Parathion methyl	298-00-0
4-Methyl-2-pentanone;	
Methyl isobutyl ketone	108-10-1
Methylene bromide; Dibromomethane	74-95-3
Methylene chloride; Dichloromethane	75-09-2
Naphthalene	91-20-3
1,4-Naphthoquinone	130-15-4
1-Naphthylamine	134-32-7
2-Naphthylamine	91-59-8
Nickel	(Total)
o-Nitroaniline; 2-Nitroaniline	88-74-4
m-Nitroaniline; 3-Nitroaniline	99-09-2
p-Nitroaniline; 4-Nitroaniline	100-01-6
Nitrobenzene	98-95-3
o-Nitrophenol; 2-Nitrophenol	88-75-5
p-Nitrophenol; 4-Nitrophenol	100-02-7
N-Nitrosodi-n-butylamine	924-16-3
N-Nitrosodiethylamine	55-18-5
N-Nitrosodimethylamine	62-75-9
N-Nitrosodiphenylamine	86-30-6
N-Nitrosodipropylamine; N-nitroso-N-dipropylamine	
Di-n-propylnitrosamine	621-64-7
N-Nitrosomethylethylamine	10595-95-6
N-Nitrosopiperidine	100-75-4
N-Nitrosopyrrolidine	930-55-2
5-Nitro-o-toluidine	99-55-8
Parathion	56-38-2
Pentachlorobenzene	608-93-5
Pentachloronitrobenzene	82-68-8
Pentachlorophenol	87-86-5
Phenacetin	62-44-2
Phenanthrene	85-01-8
Phenol	108-95-2
p-Phenylenediamine	106-50-3
Phorate	298-02-2
Polychlorinated biphenyls; PCBs; Aroclors	See Note 5.
Pronamide	23950-58-5
Propionitrile; Ethyl cyanide	107-12-0
Pyrene	129-00-0
Safrole	94-59-7
Selenium	(Total)
Silver	(Total)
Silvex; 2,4,5-TP	93-72-1
Styrene	100-42-5
Sulfide	18496-25-8
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93-76-5

1,2,4,5-Tetrachlorobenzene	95-94-3
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene; Tetra- chloroethene; Perchloroethylene	127-18-4
2,3,4,6-Tetrachlorophenol	58-90-2
Thallium	(Total)
Tin	(Total)
Toluene	108-88-3
o-Toluidine	95-53-4
Toxaphene	See Note 6.
1,2,4-Trichlorobenzene	120-82-1
1,1,1-Trichloroethane; Methylchloroform	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethylene; Trichloroethene	79-01-6
Trichlorofluoromethane; CFC-11	75-69-4
2,4,5-Trichlorophenol	95-95-4
2,4,6-Trichlorophenol	88-06-2
1,2,3-Trichloropropane	96-18-4
0,0,0-Triethyl phosphorothioate	126-68-1
sym-Trinitrobenzene	99-35-4
Vanadium	(Total)
Vinyl acetate	108-05-4
Vinyl chloride; Chloroethene	75-01-4
Xylene (total)	See Note 7.
Zinc	(Total)

#### Appendix III—Constituents for Detection Monitoring for Demolition Landfills

##### Indicator Constituents

<b>Aluminum (Al, <math>\mu\text{g/l}</math>)</b>
<b>Ammonia (<math>\text{NH}_3</math> as N, mg/l)</b>
<b>Antimony (Sb, <math>\mu\text{g/l}</math>)</b>
<b>Arsenic (As, <math>\mu\text{g/l}</math>)</b>
<b>Barium (Ba, <math>\mu\text{g/l}</math>)</b>
<b>Beryllium (Be, mg/l)</b>
<b>Boron (B, <math>\mu\text{g/l}</math>)</b>
<b>Cadmium (Cd, <math>\mu\text{g/l}</math>)</b>
<b>Calcium (Ca, mg/l)</b>
<b>Chemical Oxygen Demand (COD, mg/l)</b>
<b>Chloride (Cl, mg/l)</b>
<b>Chromium (Cr, <math>\mu\text{g/l}</math>)</b>
<b>Cobalt (Co, <math>\mu\text{g/l}</math>)</b>
<b>Copper (Cu, <math>\mu\text{g/l}</math>)</b>
<b>Fluoride (F, mg/l)</b>
<b>Hardness (calculated, mg/l)</b>
<b>Iron (Fe, <math>\mu\text{g/l}</math>)</b>
<b>Lead (Pb, <math>\mu\text{g/l}</math>)</b>
<b>Magnesium (Mg, mg/l)</b>
<b>Manganese (Mn, <math>\mu\text{g/l}</math>)</b>
<b>Mercury (Hg, <math>\mu\text{g/l}</math>)</b>
<b>Nickel (Ni, mg/l)</b>
<b>pH (units)</b>
<b>Potassium (K, mg/l)</b>
<b>Selenium (Se, <math>\mu\text{g/l}</math>)</b>
<b>Silver (Ag, <math>\mu\text{g/l}</math>)</b>
<b>Sodium (Na, mg/l)</b>
<b>Specific Conductance (Conductivity at 25°C, mho/cm)</b>
<b>Sulfate (SO, mg/l)</b>
<b>Thallium (Tl, <math>\mu\text{g/l}</math>)</b>
<b>Total Dissolved Solids (TDS, mg/l)</b>
<b>Total Organic Carbon (TOC, mg/l)</b>
<b>Total Organic Halogens (TOX, mg/l)</b>
<b>Zinc (Zn, <math>\mu\text{g/l}</math>)</b>

Appendix IV—Constituents for Assessment Monitoring for Demolition Landfills

Inorganic Constituents

Nitrate/Nitrite (NO<sub>3</sub>/NO<sub>2</sub>, mg/l)  
Phosphorus (total P, mg/l)  
Vanadium (V, µg/l)  
Zinc (Zn, µg/l)

Organic Constituents

Acetone  
Acrylonitrile  
Benzene  
Bromochloromethane  
Bromodichloromethane  
Bromoform; Tribromomethane  
Carbon disulfide  
Carbon tetrachloride  
Chlorobenzene  
Chloroethane; Ethyl chloride  
Chloroform; Trichloromethane  
Dibromochloromethane; Chlorodibromomethane  
1,2-Dibromo-3-chloropropane; DBCP  
1,2-Dibromoethane; Ethylene dibromide; EDB  
o-Dichlorobenzene; 1,2-Dichlorobenzene  
p-Dichlorobenzene; 1,4-Dichlorobenzene  
trans-1,4-Dichloro-2-butene  
1,1-Dichloroethane; Ethylidene chloride  
1,2-Dichloroethane; Ethylene dichloride  
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride  
cis-1,2-Dichloroethylene;  
cis-1,2-Dichloroethene  
trans-1,2-Dichloroethylene;  
trans-1,2-Dichloroethene  
1,2-Dichloropropane; Propylene dichloride  
cis-1,3-Dichloropropene  
trans-1,3-Dichloropropene  
Ethylbenzene  
2-Hexanone; Methyl butyl ketone  
Methyl bromide; Bromomethane  
Methyl chloride; Chloromethane  
Methylene bromide; Dibromomethane  
Methylene chloride; Dichloromethane  
Methyl ethyl ketone; MEK; 2-Butanone  
Methyl iodide; Iodomethane  
4-Methyl-2-pentanone; Methyl isobutyl ketone  
Styrene  
1,1,1,2-Tetrachloroethane  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene  
Toluene  
1,1,1-Trichloroethane; Methylchloroform  
1,1,2-Trichloroethane  
Trichloroethylene; Trichloroethene  
Trichlorofluoromethane; CFC-11  
1,2,3-Trichloropropane  
Vinyl acetate  
Vinyl chloride  
Xylenes

Notes

1. The regulatory requirements pertain only to the list of substances.
2. Common names are those widely used in government regulations,

scientific publications, and commerce; synonym/s/ exist for many chemicals.

3. This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis, 2-chloro- (CAS RN 39638-32-9).

4. Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

5. Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5).

6. Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

7. Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

*AUTHORITY: section 260.225, RSMo [Supp. 1997] 2016. Original rule filed Dec. 11, 1973, effective Dec. 21, 1973. For intervening history, please consult the Code of State Regulations. Amended: Filed June 29, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the Missouri Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176. To be considered, comments will be received until September 25, 2018. A public hearing date is scheduled for 1:00 pm September 18, 2018, at the LaCharrette Conference Room, 1101 Riverside Drive, Jefferson City, Missouri.*

Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 80—Solid Waste Management  
Chapter 4—Demolition Landfill

PROPOSED RESCISSION

**10 CSR 80-4.010 Design and Operation.** This rule regulated the design and operation of Demolition (construction waste) Landfills. This rule specifically addressed the siting, groundwater monitoring, liner and cover design, seismic design, and the design and operation of leachate collection systems and methane recovery systems.

*PURPOSE: The Solid Waste Management Program is proposing to combine 10 CSR 80-3.010 Sanitary Landfill and 10 CSR 80-4.010 Demolition Landfill. The rulemaking for rescinding 10 CSR 80-4.010 will need to run concurrently with the rulemaking amendment to 10 CSR 80-3.010 to ensure there is not a regulatory conflict. The Solid Waste Management Program believes that the consolidation of 10 CSR 80-3.010 and 10 CSR 4.010 will not significantly affect the ability to protect human health and the environment. The evidence supporting*

*the need for this proposed rulemaking is available for viewing at the Missouri Department of Natural Resources' Solid Waste Management Program at the address listed in the Notice of Public Hearing at the end of this rule. More information concerning this rulemaking can be found at the Missouri Department of Natural Resources' Proposed Rules website [www.dnr.mo.gov/proposed-rules](http://www.dnr.mo.gov/proposed-rules).*

*AUTHORITY: section 260.225, RSMo Supp. 1997. Original rule filed Dec. 11, 1973, effective Dec. 21, 1973. For intervening history, please consult the Code of State Regulations. Rescinded: Filed June 29, 2018.*

*PUBLIC COST: This proposed rescission will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed rescission will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed recession with the Missouri Department of Natural Resources, PO Box 176, Jefferson City, MO 65102-0176. To be considered, comments will be received until September 25, 2018. A public hearing date is scheduled for 1:00 pm September 18, 2018, at the LaCharrette Conference Room, 1101 Riverside Drive, Jefferson City, Missouri.*

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 130—State Environmental Improvement and  
Energy Resources Authority  
Chapter 1—Applications**

**PROPOSED AMENDMENT**

**10 CSR 130-1.010 Definitions.** The State Environmental Improvement and Energy Resources Authority is amending sections (1) through (4), (6), (10), (13), (20), and (24); deleting sections (5), (7), (8), (9), (11), (12), (14) through (19), (22), and (23); and renumbering sections (6), (10), (13), (20), (21), and (24). Proposed amendments will reference state statutes in section (1); delete language that is duplicative with state statutes in sections (5), (7), (8), (9), (11), (12), (14) through (19), (22), and (23); and delete restrictive words in sections (1) through (4), (6), (10), (13), (20), and (24).

*PURPOSE: This rule is being amended because it has not been amended since 1986 and contains definitions duplicative with state statute. The proposed amendments to 10 CSR 130-1.010 were identified during the Red Tape Reduction review pursuant to Executive Order 17-03.*

(1) Except where the context indicates otherwise, *[the following]* terms as used in these rules *[shall]* have the meaning ascribed to them in this rule **or the Act**.

(2) Act *[shall]* means sections 260.005 to 260.125, inclusive, *[Revised Statutes of Missouri]* **RSMo** and Appendix B(1) thereto.

(3) Air pollution *[shall]* means the presence in the ambient air of one (1) or more air contaminants in quantities, of characteristics and a 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.

(4) Application fee *[shall]* means the fee payable upon filing of an application.

*[(15) Authority shall mean the State Environmental Improvement and Energy Resources Authority created by the Act.]*

*[(6)](5) Authorized representative [shall] means with respect to a corporation that person designated to act on its behalf by written certificate of authority furnished to the authority containing the specimen signature of the person and signed on behalf of the corporation by its president or any vice president and attested to by its secretary or an assistant secretary.*

*[(7) Bonds shall mean bonds issued by the authority pursuant to the provisions of the Act.*

*(8) Cost shall mean the expense of the acquisition of land, rights of way, easements and other interests in real property and the expense of acquiring or construction of buildings, improvements, machinery and equipment relating to any project, including the cost of demolishing or removing any existing structures, interest during the construction of any project and engineering research, legal, accounting, underwriting, consulting and other expenses necessary or incident to determining the feasibility or practicability of any project and in carrying out the same, all of which are to be paid out of the proceeds of the loans, bonds or notes authorized by the Act.*

*(9) Disposal of solid waste or sewage shall mean the entire process of storage, collection, transportation, processing and disposal of solid waste or sewage.]*

*[(10)](6) Loans [shall] means loans made by the authority pursuant to the provisions of the Act.*

*[(11) Notes shall mean notes issued by the authority pursuant to the provisions of the Act.*

*(12) Pollution shall mean the placing of any noxious substance in the air or waters or on the lands of the state in sufficient quantity and of amounts, characteristics and duration so as to injure or harm the public health or welfare or animal life or property.]*

*[(13)](7) Pollution control facility [shall] means any facility, including land, disposal areas, incinerators, buildings, fixtures, machinery, and equipment financed, acquired, or constructed or to be financed, acquired, or constructed by the authority for the purpose of preventing or reducing pollution or providing for the disposal of solid waste or sewage.*

*[(14) Project shall mean any facility, including land, disposal areas, incinerators, buildings, fixtures, machinery and equipment financed, acquired or constructed or to be financed, acquired or constructed by the authority for the purpose of developing energy resources or preventing or reducing pollution or the disposal of solid waste or sewage or providing water facilities or resource recovery facilities.*

*(15) Resource recovery shall mean the recovery of material or energy from solid waste.*

*(16) Resource recovery facility shall mean any facility at which solid waste is processed for the purpose of extracting, converting to energy or otherwise separating and preparing solid waste for reuse.*

*(17) Resource recovery system shall mean a solid waste management system which provides for collection, separation,*

*recycling and recovery of solid wastes, including disposal of nonrecoverable waste residues.*

*(18) Sewage shall mean any liquid or gaseous waste resulting from industrial, commercial, agricultural or community activities in amounts, characteristics and duration so as to injure or harm the public health or welfare or animal life or property.*

*(19) Solid waste shall mean garbage, refuse, discarded materials and undesirable solid and semi-solid residual matter resulting from industrial, commercial, agricultural or community activities in amounts, characteristics and duration so as to injure or harm the public health or welfare or animal life or property.]*

*[(20)](8) Solid waste or sewage disposal area [shall] means any area used for the disposal of solid waste or sewage from more than one (1) residential premises or one (1) or more commercial, industrial, manufacturing, recreational, or governmental operations.*

*[(21)](9) Solid waste or sewage processing facility means incinerator, compost plant, transfer station, or any facility where solid wastes or sewage are salvaged.*

*[(22) Synthetic fuels shall mean any solid, liquid or gas or combination thereof, which can be used as a substitute for petroleum or natural gas (or any derivatives thereof, including chemical feedstocks) and which is produced by chemical or physical transformation (other than washing, coking or desulfurizing) of domestic sources of coal, including lignite and peat, shale, tar, sands, including heavy oils, water as a source of hydrogen only through electrolysis and mixtures of coal and combustible liquids including petroleum.*

*(23) Water facilities shall mean any facilities for the furnishing of water for industrial, commercial, agricultural or community purposes including, but not limited to, wells, reservoirs, dams, pumping stations, water lines, sewer lines, treatment plants, stabilization ponds, storm sewers, related equipment and machinery.]*

*[(24)](10) Water pollution [shall] means contamination or other alteration of the physical, chemical or biological properties, of any waters of the state, including change in temperature, taste, color, turbidity or odor of the waters or the discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is reasonably certain to create a nuisance or render the waters harmful, detrimental or injurious to public health, safety, or welfare or to domestic, industrial, agricultural, recreational, or other legitimate beneficial uses or to wild animals, birds, fish, or other aquatic life.*

*AUTHORITY: section 260.035.1(23), RSMo [1986] 2016. Original rule filed Sept. 3, 1986, effective Nov. 28, 1986. Amended: Filed July 2, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the State Environmental Improvement and Energy Resources Authority, PO Box 744, Jefferson City, MO 65102. To be considered, comments*

*must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 130—State Environmental Improvement and  
Energy Resources Authority  
Chapter 1—Applications**

**PROPOSED AMENDMENT**

**10 CSR 130-1.020 Application Forms and Fees.** The State Environmental Improvement and Energy Resources Authority is amending section (7), subsections (9)(A) and (B), (11)(A) through (C), sections (12) and (13); deleting sections (2) through (6), (10), subsection (11)(E) and section (15); adding new sections (2) and (3); and renumbering sections (7), (8), (9), and (11) through (14). Proposed amendments will delete duplicative language in section (2); delete or update obsolete language in sections (3), (4), (7), and subsection (11)(A); delete unnecessary requirements in sections (5), (6), subsections (9)(A) and (B), section (10), and subsection (11)(E); and delete restrictive language in subsections (11)(B) and (C), sections (12) and (13).

*PURPOSE: This rule is being amended because it has not been revised since 1986 and is not current with authority policy. The proposed amendments to 10 CSR 130-1.020 were identified during the Red Tape Reduction review pursuant to Executive Order 17-03.*

*[(2) An application to acquire, construct or finance a project shall consist of the following: the application statement; proposed resolution of official action toward issuance of the authority's bonds and/or notes or the granting of a loan; and the application fee.*

*(3) Any private person, firm, corporation, public body, political subdivision or municipal corporation is eligible to submit an application with the authority requesting funding for a study or research proposal or a contract for services.*

*(4) An application to fund a study or research proposal or to enter into a contract to provide services shall consist of the following: the application statement and the application fee.*

*(5) The application shall be submitted to the authority at least five (5) days prior to any meeting of the authority at which the applicant has requested an appearance.*

*(6) The completed original application together with five (5) copies shall be filed with the State Environmental Improvement and Energy Resources Authority at its office in Jefferson City and an additional copy of the application shall be delivered, either in person or by mail to the authority's general counsel, or to another person and/or address as the authority may from time-to-time designate by resolution.]*

**(2) The completed application shall be delivered to the State Environmental Improvement and Energy Resources Authority at its office in Jefferson City and an additional copy delivered to the authority's general counsel, or to another person or address as the authority may from time-to-time designate by resolution.**

**(3) Applications may be delivered in paper or a computer readable format which may be accessed, read, electronically stored and printed by the authority.**

*[(7)](4) The application statement should present a detailed outline of the project [or the study or research proposal or the services to be rendered] for which the authority financing is requested and*

should be in a form as the authority may from time-to-time require. A copy of the application form may be obtained from the authority at its office in Jefferson City.

*[(8)](5)* The authority may request additional information from the applicant and additional information so requested must be satisfactory to the authority before it passes its resolution of official action.

*[(9)](6)* If the project for which the authority is requested to finance is a pollution control project, the applicant, prior to the issuance of the authority's bonds and/or notes or the granting of the loan, shall file with the authority—

(A) A control agency certificate issued by the state or federal agency which is charged with regulating the pollution which the project is designed to control, reduce, or prevent *[in a form so as shall be determined by the authority from time-to-time]* stating that the pollution control project, as designed, is in furtherance of applicable state or federal standards and regulations; or

(B) An engineering certificate from an engineering firm *[acceptable to the authority in a form so as shall be determined by the authority from time-to-time]* stating that the pollution control project, as designed, is in furtherance of applicable state or federal standards and regulations. The applicant shall be responsible for applying to the appropriate state or federal agency or engineering firm for the control agency certificate and for submitting to the state or federal agency or engineering firm information as the state or federal agency or engineering firm may require.

*[(10)]* As a part of the application, the applicant shall prepare and submit a proposed resolution of official action.]

*[(11)](7)* The following fees are payable by applicant to the authority:

(A) Application Fee. An application fee in an amount as hereinafter provided is due and payable upon filing of the request for financing or refinancing. The application fee is an amount equal to one-tenth (1/10) of one percent (1%) of the amount for which financing is requested *[or of the total cost of the study or research proposal or contract to provide services.]* Notwithstanding the foregoing, the applicant fee shall not be less than one hundred dollars (\$100) nor more *[that] than* two thousand five hundred dollars (\$2,500). The application fee is nonrefundable and is in addition to the issuance fee or refinancing fee *[provided for that follows. Payment of the application fee shall be by bank draft, money order or check made payable to the State Environmental Improvement and Energy Resources Authority];*

(B) Issuance Fee. For all loans, bonds, or notes issued by the authority, other than loans, bonds, or notes which are being issued to refund or refinance loans, bonds, or notes previously issued by the authority, an issuance fee shall be payable to the authority at the time of the closing of the issuance of the bonds or notes or the granting of the loan *[which shall be] and* computed in the following manner:

Rate	Amount of Financing
.00625 (5/8 of 1%) on the 1st	\$ 2,500,000;
.005 (1/2 of 1%) on the next	\$ 2,500,000;
.00375 (3/8 of 1%) on the next	\$ 5,000,000;
.0025 (1/4 of 1%) on the next	\$15,000,000;
.00125 (1/8 of 1%) on all over	\$25,000,000;

(C) Refinancing Fee. On all loans, bonds or notes issued for refinancing or refunding previously issued loans, bonds, or notes, a refinancing fee shall be payable to the authority at the time of the closing of the issuance of the bonds or notes or the granting of the loan which *[shall be]* is calculated as follows: i) within two (2) years after the issuance of the loan, bonds or notes being refinanced, one-tenth (1/10) of the issuance fee provided in subsection (11)(B); ii) after two (2) years and within five (5) years after the issuance of the loan,

bonds or notes being refinanced, one-fifth (1/5) of the issuance fee provided in subsection (11)(B); iii) after five (5) years and within ten (10) years after the issuance of the loan, bonds or notes being refinanced, one-third (1/3) of the issuance fee provided in subsection (11)(B); iv) after ten (10) years and within fifteen (15) years after the issuance of the loan, bonds or notes being refinanced, one-half (1/2) of the issuance fee provided in subsection (11)(B); or v) after fifteen (15) years, same as issuance fee provided in subsection (11)(B); but in no event shall the refinancing fee be less than the lesser of a) ten thousand dollars (\$10,000) or b) the issuance fee provided in subsection (11)(B);

(D) Nature of Fees. The application fee, issuance fee, and refinancing fee are for the support of the authority and its activities. The application fee, issuance fee, and refinancing fee do not provide for bond registration and/or any other issuance or project costs, including, though not by way of limitation, attorneys' fees, printing costs, financial advisor fees, underwriting fees, or trustee fees;

*[(E) Partial Prepayment of Issuance Fee or Refinancing Fee. Upon adoption of the resolution of official action toward issuance of the authority's bonds and/or notes or approval of the loan by the authority, the authority may require an applicant to make partial prepayment of the issuance fee or refinancing fee. The partial prepayment shall not exceed twenty-five percent (25%) of the total issuance fee or refinancing fee, as provided for in subsections (11)(B) or (C).]*

*[(12)](8)* Each applicant *[shall] may* be required to personally appear at the meeting at which the authority considers the proposed resolution of official action.

*[(13)](9)* Prior to the issuance of the bonds and/or notes of the authority, the applicant shall either provide the authority with an unqualified opinion of counsel experienced in matters relating to tax exemption of interest on bonds and/or notes of states and their political subdivisions to the effect that the interest payments on the bonds and/or notes to be issued by the authority will be exempt from federal income taxes or *[shall]* apply for, and obtain in the name of the authority, a determination by the Internal Revenue Service that the interest payments on the bonds and/or notes to be issued by the authority will be exempt from federal income taxes.

*[(14)](10)* Upon written request submitted to the authority and upon good cause shown, the authority may waive or modify the strict application of any rule provided for in this rule including the payment of the application fee, issuance fee and refinancing fee, or the amount thereof, if the authority determines that the substance and purpose of any rule provided for in these regulations has been complied with and fulfilled.

*[(15)]* After the issuance of the resolution of official action toward issuance of the authority's bonds and/or notes, and no later than one (1) month prior to the issuance of the bonds or notes, a timetable for all future proceedings, following adoption of the resolution of official action toward issuance of the authority's bonds and/or notes shall be agreed upon between the authority and the applicant. All proceedings thereafter shall be governed by an agreed upon time schedule.]

*AUTHORITY: section 260.035.1(23), RSMo [1986] 2016. Original rule filed Sept. 3, 1986, effective Nov. 28, 1986. Amended: Filed July 2, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the State Environmental Improvement and Energy Resources Authority, PO Box 744, Jefferson City, MO 65102. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**Title 13—DEPARTMENT OF SOCIAL SERVICES  
Division 70—MO HealthNet Division  
Chapter 15—Hospital Program**

**PROPOSED AMENDMENT**

**13 CSR 70-15.010 Inpatient Hospital Services Reimbursement Plan; Outpatient Hospital Services Reimbursement Methodology.**  
The division is amending subsections (3)(B) and (15)(B).

*PURPOSE: This amendment provides for the State Fiscal Year (SFY) 2019 trend factor to be applied in determining Federal Reimbursement Allowance (FRA) funded hospital payments for SFY 2019 along with updates to the calculation of the SFY 2019 Direct Medicaid payments.*

(3) Per Diem Reimbursement Rate Computation. Each hospital shall receive a MO HealthNet per diem rate based on the following computation:

(B) Trend Indices (TI). Trend indices are determined based on the four- (4-) quarter average DRI Index for DRI-Type Hospital Market Basket as published in *Health Care Costs* by DRI/McGraw-Hill for each State Fiscal Year (SFY) 1995 to 1998. Trend indices starting in SFY 1999 will be determined based on CPI Hospital index as published in *Health Care Costs* by DRI/McGraw-Hill, or equivalent publication, regardless of any changes in the name of the publication or publisher, for each State Fiscal Year (SFY). Trend indices starting in SFY 2016 will be determined based on the Hospital Market Basket index as published in *Healthcare Cost Review* by Institute of Health Systems (IHS), or equivalent publication, regardless of any changes in the name of the publication or publisher, for each State Fiscal Year (SFY).

1. The TI are—

- A. SFY 1994—4.6%
- B. SFY 1995—4.45%
- C. SFY 1996—4.575%
- D. SFY 1997—4.05%
- E. SFY 1998—3.1%
- F. SFY 1999—3.8%
- G. SFY 2000—4.0%
- H. SFY 2001—4.6%
- I. SFY 2002—4.8%
- J. SFY 2003—5.0%
- K. SFY 2004—6.2%
- L. SFY 2005—6.7%
- M. SFY 2006—5.7%
- N. SFY 2007—5.9%
- O. SFY 2008—5.5%
- P. SFY 2009—5.5%
- Q. SFY 2010—3.9%
- R. SFY 2011—3.2%—The 3.2% trend shall not be applied in

determining the per diem rate, Direct Medicaid payments, or uninsured payments.

- S. SFY 2012—4.0%
- T. SFY 2013—4.4%
- U. SFY 2014—3.7%
- V. SFY 2015—4.3%

- W. SFY 2016—2.5%
- X. SFY 2017—2.7%
- Y. SFY 2018—3.2%
- Z. SFY 2019—2.8%

2. The TI for SFY 1996 through SFY 1998 are applied as a full percentage to the OC of the per diem rate and for SFY 1999 the OC of the June 30, 1998, rate shall be trended by 1.2% and for SFY 2000 the OC of the June 30, 1999, rate shall be trended by 2.4%. The OC of the June 30, 2000, rate shall be trended by 1.95% for SFY 2001.

3. The per diem rate shall be reduced as necessary to avoid any negative Direct Medicaid payments computed in accordance with subsection (15)(B).

4. A facility previously enrolled for participation in the MO HealthNet Program, which either voluntarily or involuntarily terminates its participation in the MO HealthNet Program and which reenters the MO HealthNet Program, will receive the same inpatient rate and outpatient rate as the previous owner/operator. Such facility will also receive the same Direct Medicaid Add-On Payment and Uninsured Add-On Payment as the previous owner/operator if the facility reenters the MO HealthNet Program during the same state fiscal year. If the facility does not reenter during the same state fiscal year, the Direct Medicaid Add-On Payment and Uninsured Add-On Payment will be determined based on the applicable base year data (i.e., fourth prior year cost report for the Direct Medicaid Payment; see 13 CSR 70-15.220 for the applicable data for the Uninsured Add-On Payment). If the facility does not have the applicable base year data, the Direct Medicaid Add-On Payment and the Uninsured Add-On Payment will be based on the most recent audited data available and will include annual trend factor adjustments from the year subsequent to the cost report period through the state fiscal year for which the payments are being determined.

(15) Direct Medicaid Payments.

(B) Direct Medicaid payment will be computed as follows:

1. The MO HealthNet share of the inpatient FRA assessment will be calculated by dividing the hospital's inpatient Medicaid patient days by the total inpatient hospital patient days from the hospital's base cost report to arrive at the inpatient Medicaid utilization percentage. This percentage is then multiplied by the inpatient FRA assessment for the current SFY to arrive at the increased allowable MO HealthNet costs for the inpatient FRA assessment. The MO HealthNet share of the outpatient FRA assessment will be calculated by dividing the hospital's outpatient MO HealthNet charges by the total outpatient hospital charges from the base cost report to arrive at the MO HealthNet utilization percentage. This percentage is then multiplied by the outpatient FRA assessment for the current SFY to arrive at the increased allowable MO HealthNet costs for the outpatient FRA assessment.

A. Effective for payments made on or after May 1, 2017, only the Fee-for-Service and Out-of-State components of the MO HealthNet share of both the inpatient and outpatient FRA assessment will be included in the Direct Medicaid add-on payment.

2. The unreimbursed MO HealthNet costs are determined by subtracting the hospital's per diem rate from its trended per diem costs. The difference is multiplied by the estimated MO HealthNet patient days for the current SFY plus the out-of-state days from the fourth prior year cost report trended to the current SFY. The estimated MO HealthNet patient days for the current SFY shall be the better of the sum of the Fee-for-Service (FFS) days plus managed care days or the days used in the prior SFY's Direct Medicaid payment calculation. The FFS days are determined from a regression analysis of the hospital's FFS days from February 1999 through December of the second prior SFY. The managed care days are based on the FFS days determined from the regression analysis, as follows: The FFS days are factored up by the percentage of FFS days to the total of FFS days plus managed care days from the hospital's fourth prior year cost report. The difference between the FFS days and the FFS days

factored up by the FFS days' percentage are the managed care days.

A. Effective January 1, 2010, the estimated MO HealthNet patient days shall be the better of the sum of the FFS days plus managed care days or the days used in the prior SFY's Direct Medicaid payment calculation (i.e., for SFY 2010, prior SFY would be SFY 2009) adjusted downward by twenty-five percent (25%) of the difference between the sum of the FFS days plus managed care days and the days used in the prior SFY's Direct Medicaid payment calculation.

(I) The FFS days plus managed care days are determined as follows: The FFS days are determined by applying a trend to the second prior Calendar Year (CY) days (i.e., for SFY 2010, second prior CY would be 2008) as determined from the state's Medicaid Management Information System (MMIS). The trend is determined from a regression analysis of the hospital's FFS days from February 1999 through December of the second prior CY. The managed care days are based on the FFS days determined from the regression analysis, as follows: The FFS days are factored up by the percentage of FFS days to the total of FFS days plus managed care days from the hospital's fourth prior year cost report. The difference between the FFS days and the FFS days factored up by the FFS days' percentage are the managed care days.

(II) The days used in the prior SFY's Direct Medicaid payment calculation adjusted downward by twenty-five percent (25%) are determined as follows: The days used in the prior SFY's Direct Medicaid payment calculation are compared to the sum of the FFS days plus managed care days as determined in part (15)(B)2.A.(I). If the hospital has greater estimated days as used in the prior SFY's Direct Medicaid payment calculation than the sum of the FFS days plus managed care days as determined in part (15)(B)2.A.(I), the difference between the days is multiplied by twenty-five percent (25%), and this amount is removed from the estimated days used in the prior SFY's Direct Medicaid payment calculation to arrive at the current year's estimated days.

B. Effective July 1, 2010, the estimated MO HealthNet patient days shall be the better of the sum of the FFS days plus managed care days or the days used in the SFY 2009 Direct Medicaid payment calculation adjusted downward by fifty percent (50%) of the difference between the sum of the FFS days plus managed care days and the days used in the SFY 2009 Direct Medicaid payment calculation.

(I) The FFS days plus managed care days are determined as set forth in part (15)(B)2.A.(I).

(II) The days used in the prior SFY's Direct Medicaid payment calculation adjusted downward by fifty percent (50%) are determined as follows: The days used in the prior SFY's Direct Medicaid payment calculation are compared to the sum of the FFS days plus managed care days as determined in part (15)(B)2.A.(I). If the hospital has greater estimated days as used in the prior SFY's Direct Medicaid payment calculation than the sum of the FFS days plus managed care days as determined in part (15)(B)2.A.(I), the difference between the days is multiplied by fifty percent (50%) and this amount is removed from the estimated days used in the prior SFY's Direct Medicaid payment calculation to arrive at the current year's estimated days.

C. Effective July 1, 2011, the estimated MO HealthNet patient days shall be the better of the sum of the FFS days plus managed care days or the days used in the SFY 2009 Direct Medicaid payment calculation adjusted downward by seventy-five percent (75%) of the difference between the sum of the FFS days plus managed care days and the days used in the SFY 2009 Direct Medicaid payment calculation.

(I) The FFS days plus managed care days are determined as set forth in part (15)(B)2.A.(I).

(II) The days used in the prior SFY's Direct Medicaid payment calculation adjusted downward by seventy-five percent (75%) are determined as follows: The days used in the prior SFY's Direct Medicaid payment calculation are compared to the sum of the FFS

days plus managed care days as determined in part (15)(B)2.A.(I). If the hospital has greater estimated days as used in the prior SFY's Direct Medicaid payment calculation than the sum of the FFS days plus managed care days as determined in part (15)(B)2.A.(I), the difference between the days is multiplied by seventy-five percent (75%) and this amount is removed from the estimated days used in the prior SFY's Direct Medicaid payment calculation to arrive at the current year's estimated days.

D. Effective July 1, 2012, the estimated MO HealthNet patient days shall be the sum of the FFS days plus managed care days. The FFS days plus managed care days are determined as set forth in part (15)(B)2.A.(I).

E. Effective for payments made on or after May 1, 2017, the estimated MO HealthNet patient days for the SFY shall be determined by adjusting the FFS days from the state's MMIS for the second prior Calendar Year (CY) (i.e., for SFY 2017, second prior CY would be 2015) by:

(I) The trend determined from a regression analysis of the hospital's FFS days from February 1999 through December of the second prior CY; and

(II) The days estimated to shift from FFS to managed care effective May 1, 2017. The estimated managed care days for populations added to managed care beginning May 1, 2017 will be subtracted from the trended FFS days to yield the estimated MO HealthNet patient days.

**F. Effective for payments made on or after July 1, 2018, the estimated MO HealthNet patient days for the SFY shall be determined by adjusting the FFS days from the state's MMIS for the second prior Calendar Year (CY) (i.e., for SFY 2019, second prior CY would be 2017) by:**

**(I) The trend determined from a regression analysis of the hospital's FFS days from February 1999 through December of the second prior CY;**

**(II) A percentage adjustment shall be applied to the regression due to statewide managed care;**

**(III) The FFS days are factored up by the percentage of FFS days to the total of FFS days plus managed care days from the hospital's fourth prior year cost report to yield the estimated MO HealthNet patient days; and**

**(IV) From the total estimated MO HealthNet patient days, remove the SFY 2019 estimated managed care days to yield the estimated MO HealthNet FFS patient days.**

*/F./G.* The trended cost per day is calculated by trending the base year costs per day by the trend indices listed in paragraph (3)(B)1., using the rate calculation in subsection (3)(A). In addition to the trend indices applied to inflate base period costs to the current fiscal year, base year costs will be further adjusted by a Missouri Specific Trend. The Missouri Specific Trend will be used to address the fact that costs for Missouri inpatient care of MO HealthNet residents have historically exceeded the compounded inflation rates estimated using national hospital indices for a significant number of hospitals. The Missouri Specific Trend will be applied at one and one-half percent (1.5%) per year to the hospital's base year. For example, hospitals with a 1998 base year will receive an additional six percent (6%) trend, and hospitals with a 1999 base year will receive an additional four and one-half percent (4.5%) trend.

(I) Effective for dates of service beginning July 1, 2010, the Missouri Specific Trend shall no longer be applied to inflate base period costs.

*/G./H.* For hospitals that meet the requirements in paragraphs (6)(A)1., (6)(A)2., and (6)(A)4. of this rule (safety net hospitals), the base year cost report may be from the third prior year, the fourth prior year, or the fifth prior year. For hospitals that meet the requirements in paragraphs (6)(A)1. and (6)(A)3. of this rule (first tier Disproportionate Share Hospitals), the base year operating costs may be the third or fourth prior year cost report. The MO HealthNet Division shall exercise its sole discretion as to which report is most representative of costs. For all other hospitals, the base

year operating costs are based on the fourth prior year cost report. For any hospital that has both a twelve- (12-) month cost report and a partial year cost report, its base period cost report for that year will be the twelve- (12-) month cost report.

*H.J.* The trended cost per day does not include the costs associated with the FRA assessment, the application of minimum utilization, the utilization adjustment, and the poison control costs computed in paragraphs (15)(B)1., 3., 4., and 5.;

3. The minimum utilization costs for capital and medical education is calculated by determining the difference in the hospital's cost per day when applying the minimum utilization, as identified in paragraph (5)(C)4., and without applying the minimum utilization. The difference in the cost per day is multiplied by the estimated MO HealthNet patient days for the SFY;

4. The utilization adjustment cost is determined by estimating the number of MO HealthNet inpatient days the hospital will not provide as a result of the managed care health plans limiting inpatient hospital services. These days are multiplied by the hospital's cost per day to determine the total cost associated with these days. This cost is divided by the remaining total patient days from its base period cost report to arrive at the increased cost per day. This increased cost per day is multiplied by the estimated MO HealthNet days for the current SFY to arrive at the MO HealthNet utilization adjustment.

A. Effective January 1, 2010, hospitals other than safety net hospitals as defined in subsection (6)(B) will receive sixty-seven percent (67%) of the utilization adjustment calculated in accordance with paragraph (15)(B)4. Safety net hospitals will continue to receive one hundred percent (100%) of the adjustment calculated in accordance with paragraph (15)(B)4.

B. Effective July 1, 2010, hospitals other than safety net hospitals as defined in subsection (6)(B), children's hospitals as defined in subsection (2)(S), and specialty pediatric hospitals as defined in subsection (2)(P) will receive thirty-four percent (34%) of the utilization adjustment calculated in accordance with paragraph (15)(B)4. Children's hospitals and specialty pediatric hospitals will receive fifty percent (50%) of the adjustment calculated in accordance with paragraph (15)(B)4. Safety net hospitals will continue to receive one hundred percent (100%) of the adjustment calculated in accordance with paragraph (15)(B)4.

C. Effective July 1, 2011, the utilization adjustment will no longer apply to any hospital other than safety net hospitals as defined in subsection (6)(B), children's hospitals as defined in subsection (2)(S), and specialty pediatric hospitals as defined in subsection (2)(P). Children's hospitals and specialty pediatric hospitals will continue to receive fifty percent (50%) of the adjustment calculated in accordance with paragraph (15)(B)4. Safety net hospitals will continue to receive one hundred percent (100%) of the adjustment calculated in accordance with paragraph (15)(B)4.;

5. The poison control cost shall reimburse the hospital for the prorated MO HealthNet managed care cost. It will be calculated by multiplying the estimated MO HealthNet share of the poison control costs by the percentage of managed care participants to total MO HealthNet participants; and

6. Prior to July 1, 2006, the costs for including out-of-state Medicaid days is calculated by subtracting the hospital's per diem rate from its trended per diem cost and multiplying this difference by the out-of-state Medicaid days from the base year cost report. Effective July 1, 2006, the costs for including out-of-state Medicaid days is calculated by subtracting the hospital's per diem rate from its trended per diem cost and multiplying this difference by the out-of-state Medicaid days as determined from the regression analysis performed using the out-of-state days from the fourth, fifth, and sixth prior year cost reports.

**Regulations.** *Emergency amendment filed June 21, 2018, effective July 1, 2018, expires Feb. 28, 2019. Amended: Filed June 21, 2018.*

**PUBLIC COST:** *This proposed amendment will cost state agencies or political subdivisions approximately \$13.6 million dollars.*

**PRIVATE COST:** *This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

**NOTICE TO SUBMIT COMMENTS:** *Anyone may file a statement in support of or in opposition to this proposed amendment with the Department of Social Services, Legal Services Division-Rulemaking, PO Box 1527, Jefferson City, MO 65102-1527, or by email to Rules.Comment@dss.mo.gov. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**AUTHORITY:** *sections 208.152, 208.153, [and] 208.201, and 660.017, RSMo 2016. This rule was previously filed as 13 CSR 40-81.050. Original rule filed Feb. 13, 1969, effective Feb. 23, 1969. For intervening history, please consult the Code of State*

**FISCAL NOTE  
PUBLIC COST**

- I. Department Title:** Title 13 - Department of Social Services  
**Division Title:** Division 70 - MO HealthNet Division  
**Chapter Title:** Chapter 15 – Hospital Program

<b>Rule Number and Title:</b>	13 CSR 70-15.010 Inpatient Hospital Services Reimbursement Plan; Outpatient Hospital Services Reimbursement Methodology
<b>Type of Rulemaking:</b>	Emergency Amendment

**II. SUMMARY OF FISCAL IMPACT**

Affected Agency or Political Subdivision	Estimate Cost of Compliance in the Aggregate
Department of Social Services, MO HealthNet Division	<b>SFY 2019 Impact:</b> Total Cost = \$39 million; State Share = \$13.6 million

**III. WORKSHEET****Estimated Cost for SFY 2019:**

Estimated Payments with 2.8% Trend	\$2,163,340,911
Estimated Payments without 2.8% Trend	\$2,124,303,109
Estimated Impact of 2.8% Trend	\$39,037,801
State Share Percentage	34.797%
State Share	\$13,583,984

**IV. ASSUMPTIONS**

The estimated cost is based upon the data in FRA 19-1. The base year for the SFY 2019 payments are the 2015 cost reports which are adjusted by the applicable trends published in 13 CSR 70-15.010 and the 2.8% trend for SFY 2019, which is the subject of this emergency amendment.

**Title 13—DEPARTMENT OF SOCIAL SERVICES  
Division 70—MO HealthNet Division  
Chapter 15—Hospital Program**

**PROPOSED AMENDMENT**

**13 CSR 70-15.110 Federal Reimbursement Allowance (FRA).** The division is amending subsection(1)(A) and adding section (22).

*PURPOSE: This amendment provides for the State Fiscal Year (SFY) 2019 trend factor to be applied to the inpatient and outpatient adjusted net revenues determined from the Federal Reimbursement Allowance (FRA) fiscal year cost report to determine the inpatient and outpatient adjusted net revenues subject to the FRA assessment. Additionally, this amendment establishes the FRA assessment effective July 1, 2018 at a rate of five and sixty hundredths percent (5.60%) of each hospital's inpatient and outpatient adjusted net revenues.*

(1) Federal Reimbursement Allowance (FRA). FRA shall be assessed as described in this section.

(A) Definitions.

1. Bad debts—Amounts considered to be uncollectible from accounts and notes receivable that were created or acquired in providing services. Allowable bad debts include the costs of caring for patients who have insurance, but their insurance does not cover the particular service procedures or treatment rendered.

2. Base cost report—Desk-reviewed Medicare/Medicaid cost report. The Medicare/Medicaid Cost Report version 2552-96 (CMS 2552-96) shall be used for fiscal years ending on or after September 30, 1996. The Medicare/Medicaid Cost Report version 2552-10 (CMS 2552-10) shall be used for fiscal years beginning on and after May 1, 2010. When a hospital has more than one (1) cost report with periods ending in the base year, the cost report covering a full twelve- (12-) month period will be used. If none of the cost reports covers a full twelve (12) months, the cost report with the latest period will be used. If a hospital's base cost report is less than or greater than a twelve- (12-) month period, the data shall be adjusted, based on the number of months reflected in the base cost report, to a twelve- (12-) month period.

3. Charity care—Those charges written off by a hospital based on the hospital's policy to provide health care services free of charge or at a reduced charge because of the indigence or medical indigence of the patient.

4. Contractual allowances—Difference between established rates for covered services and the amount paid by third-party payers under contractual agreements. The Federal Reimbursement Allowance (FRA) is a cost to the hospital, regardless of how the FRA is remitted to the MO HealthNet Division, and shall not be included in contractual allowances for determining revenues. Any redistributions of MO HealthNet payments by private entities acting at the request of participating health care providers shall not be included in contractual allowances or determining revenues or cost of patient care.

5. Department—Department of Social Services.

6. Director—Director of the Department of Social Services.

7. Division—MO HealthNet Division, Department of Social Services.

8. Engaging in the business of providing inpatient health care—Accepting payment for inpatient services rendered.

9. Federal Reimbursement Allowance (FRA)—The fee assessed to hospitals for the privilege of engaging in the business of providing inpatient health care in Missouri. The FRA is an allowable cost to the hospital.

10. Fiscal period—Twelve- (12-) month reporting period determined by each hospital.

11. Gross hospital service charges—Total charges made by the hospital for inpatient and outpatient hospital services that are covered

under 13 CSR 70-15.010.

12. Hospital—A place devoted primarily to the maintenance and operation of facilities for the diagnosis, treatment, or care for not fewer than twenty-four (24) hours in any week of three (3) or more nonrelated individuals suffering from illness, disease, injury, deformity, or other abnormal physical conditions; or a place devoted primarily to provide, for not fewer than twenty-four (24) hours in any week, medical or nursing care for three (3) or more nonrelated individuals. The term hospital does not include convalescent, nursing, shelter, or boarding homes as defined in Chapter 198, RSMo.

13. Hospital revenues subject to FRA assessment effective July 1, 2008—Each hospital's inpatient adjusted net revenues and outpatient adjusted net revenues subject to the FRA assessment will be determined as follows:

A. Obtain "Gross Total Charges" from Worksheet G-2, Line 25, Column 3 from CMS 2552-96, or Worksheet G-2, Line 28, Column 3 from CMS 2552-10, of the third prior year cost report (i.e., FRA fiscal year cost report) for the hospital. Charges shall exclude revenues for physician services. Charges related to activities subject to the Missouri taxes assessed for outpatient retail pharmacies and nursing facility services shall also be excluded. "Gross Total Charges" will be reduced by the following:

(I) "Nursing Facility Charges" from Worksheet C, Part I, Line 35, Column 6 from CMS 2552-96, or Worksheet C, Part I, Line 45, Column 6 from CMS 2552-10;

(II) "Swing Bed Nursing Facility Charges" from Worksheet G-2, Line 5, Column 1 from CMS 2552-96, or Worksheet G-2, Line 6, Column 1 from CMS 2552-10;

(III) "Nursing Facility Ancillary Charges" as determined from the Department of Social Services, MO HealthNet Division, nursing home cost report. (Note: To the extent that the gross hospital charges, as specified in subparagraph (1)(A)13.A. above, include long-term care charges, the charges to be excluded through this step shall include all long-term care ancillary charges including skilled nursing facility, nursing facility, and other long-term care providers based at the hospital that are subject to the state's provider tax on nursing facility services.);

(IV) "Distinct Part Ambulatory Surgical Center Charges" from Worksheet G-2, Line 22, Column 2 from CMS 2552-96, or Worksheet G-2, Line 25, Column 2 from CMS 2552-10;

(V) "Ambulance Charges" from Worksheet C, Part I, Line 65, Column 7 from CMS 2552-96, or Worksheet C, Part I, Line 95, Column 7 from CMS 2552-10;

(VI) "Home Health Charges" from Worksheet G-2, Line 19, Column 2 from CMS 2552-96, or Worksheet G-2, Line 22, Column 2 from CMS 2552-10;

(VII) "Total Rural Health Clinic Charges" from Worksheet C, Part I, Column 7, Lines 63.50-63.59 from CMS 2552-96, or Worksheet C, Part I, Column 7, Line 88 and subsets from CMS 2552-10; and

(VIII) "Other Non-Hospital Component Charges" from Worksheet G-2, Lines 6, 8, 21, 21.02, 23, and 24 from CMS 2552-96, or Worksheet G-2, Lines 5, 7, 9, 21, 24, 26, and 27 from CMS 2552-10;

B. Obtain "Net Revenue" from Worksheet G-3, Line 3, Column 1. The state will ensure this amount is net of bad debts and other uncollectible charges by survey methodology;

C. "Adjusted Gross Total Charges" (the result of the computations in subparagraph (1)(A)13.A.) will then be further adjusted by a hospital-specific collection-to-charge ratio determined as follows:

(I) Divide "Net Revenue" by "Gross Total Charges"; and

(II) "Adjusted Gross Total Charges" will be multiplied by the result of part (1)(A)13.C.(I) to yield "Adjusted Net Revenue";

D. Obtain "Gross Inpatient Charges" from Worksheet G-2, Line 25, Column 1 from CMS 2552-96, or Worksheet G-2, Line 28, Column 1 from CMS 2552-10, of the most recent cost report that is available for a hospital;

E. Obtain "Gross Outpatient Charges" from Worksheet G-2,

Line 25, Column 2 from CMS 2552-96, or Worksheet G-2, Line 28, Column 2 from CMS 2552-10, of the most recent cost report that is available for a hospital;

F. Total “Adjusted Net Revenue” will be allocated between “Net Inpatient Revenue” and “Net Outpatient Revenue” as follows:

(I) “Gross Inpatient Charges” will be divided by “Gross Total Charges”;

(II) “Adjusted Net Revenue” will then be multiplied by the result to yield “Net Inpatient Revenue”;

(III) The remainder will be allocated to “Net Outpatient Revenue”;

G. The trend indices listed below will be applied to the apportioned inpatient adjusted net revenue and outpatient adjusted net revenue in order to inflate or trend forward the adjusted net revenues from the FRA fiscal year cost report to the current state fiscal year to determine the inpatient and outpatient adjusted net revenues subject to the FRA assessment.

(I) SFY 2009 = 5.50%

(II) SFY 2009 Missouri Specific Trend = 1.50%

(III) SFY 2010 = 3.90%

(IV) SFY 2010 Missouri Specific Trend = 1.50%

(V) SFY 2011 = 3.20%

(VI) SFY 2012 = 5.33%

(VII) SFY 2013 = 4.4%

(VIII) SFY 2014 =

(a) Inpatient Adjusted Net Revenues—0%

(b) Outpatient Adjusted Net Revenues—3.70%

(IX) SFY 2015 =

(a) Inpatient Adjusted Net Revenues—0%

(b) Outpatient Adjusted Net Revenues—4.30%

(X) SFY 2016 =

(a) Inpatient Adjusted Net Revenues—0%

(b) Outpatient Adjusted Net Revenues—3.90%

(XI) SFY 2017 =

(a) Inpatient Adjusted Net Revenues—0%

(b) Outpatient Adjusted Net Revenues—4.10%

(XII) SFY 2018 =

(a) Inpatient Adjusted Net Revenues—0%

(b) Outpatient Adjusted Net Revenues—0%

**(XIII) SFY 2019 =**

**(a) Inpatient Adjusted Net Revenues—0%**

**(b) Outpatient Adjusted Net Revenues—0%**

14. Net operating revenue—Gross charges less bad debts, less charity care, and less contractual allowances times the trend indices listed in 13 CSR 70-15.010(3)(B).

15. Other operating revenues—The other operating revenue is total other revenue less government appropriations, less donations, and less income from investments times the trend indices listed in 13 CSR 70-15.010(3)(B).

**(22) Beginning July 1, 2018, the FRA assessment shall be determined at the rate of five and sixty hundredths percent (5.60%) of each hospital’s inpatient adjusted net revenues and outpatient adjusted net revenues as set forth in paragraph (1)(A)13. The FRA assessment rate of five and sixty hundredths percent (5.60%) will be applied individually to the hospital’s inpatient adjusted net revenues and outpatient adjusted net revenues. The hospital’s total FRA assessment is the sum of the assessment determined from its inpatient adjusted net revenue plus the assessment determined for its outpatient adjusted net revenue.**

*AUTHORITY: sections 208.201, 208.453, [and] 208.455, and 660.017, RSMo 2016. Emergency rule filed Sept. 21, 1992, effective Oct. 1, 1992, expired Jan. 28, 1993. Emergency rule filed Jan. 15, 1993, effective Jan. 25, 1993, expired May 24, 1993. Original rule filed Sept. 21, 1992, effective June 7, 1993. For intervening history, please consult the Code of State Regulations. Emergency amendment filed June 21, 2018, effective July 1, 2018, expires Feb. 28, 2019.*

*Amended: Filed June 21, 2018.*

*PUBLIC COST: This proposed amendment will result in FRA Assessment cost to state agencies or political subdivisions of approximately \$3.2 million.*

*PRIVATE COST: This proposed amendment will result in FRA Assessment cost to private entities of approximately \$29.3 million.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the Department of Social Services, Legal Services Division-Rulemaking, PO Box 1527, Jefferson City, MO 65102-1527, or by email to Rules.Comment@dss.mo.gov. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**FISCAL NOTE  
PUBLIC COST**

- I. Department Title:** Title 13 - Department of Social Services  
**Division Title:** Division 70 - MO HealthNet Division  
**Chapter Title:** Chapter 15 – Hospital Program

<b>Rule Number and Title:</b>	13 CSR 70-15.110 Federal Reimbursement Allowance (FRA)
<b>Type of Rulemaking:</b>	Proposed Amendment

**II. SUMMARY OF FISCAL IMPACT**

Affected Agency or Political Subdivision	Estimated Cost of Compliance in the Aggregate
Hospitals which provide health care services in Missouri that are owned or controlled by the state, counties, cities, or hospital districts	Estimated cost for SFY 2019 \$3.2 million

**III. WORKSHEET**

**Estimated Assessment at 5.60% for SFY 2019:**

	No. of Facilities	Inpatient Revenues	Outpatient Revenues	Total
Public Facilities Revenues	40	\$1,568,471,062	\$1,670,312,397	\$3,238,783,459
FRA Assessment Rate		5.60%	5.60%	5.60%
Total Assessment without Trend		\$87,834,379	\$93,537,494	\$181,371,874

**IV. ASSUMPTIONS**

This fiscal note reflects the total FRA Assessment of 5.60% for July 1, 2018 through June 30, 2019. The FRA Assessment to be collected during SFY 2019 is estimated at approximately \$181.4 million which is an FRA Assessment increase to the public facilities of approximately \$3.2 million as compared to the SFY 2018 FRA Assessment. Note that the FRA Assessment for SFY 2018 was 5.70% for the first quarter and 5.50% for the last three quarters.

The fiscal note is based on establishing the FRA assessment rate as noted above and a trend of 0.0% on inpatient and outpatient revenues effective for dates of service beginning July 1, 2018. The FRA assessment rate is levied upon Missouri hospitals' trended, inpatient and outpatient net adjusted revenues in accordance with the Missouri Partnership Plan.

**FISCAL NOTE  
PRIVATE COST**

- I. Department Title:** Title 13 - Department of Social Services
- Division Title:** Division 70 - MO HealthNet Division
- Chapter Title:** Chapter 15 – Hospital Program

<b>Rule Number and Title:</b>	13 CSR 70-15.110 Federal Reimbursement Allowance (FRA)
<b>Type of Rulemaking:</b>	Proposed Amendment

**II. SUMMARY OF FISCAL IMPACT**

<b>Estimate of the number of entities by class which would likely be affected by the adoption of the proposed rule:</b>	<b>Classification by types of the business entities which would likely be affected:</b>	<b>Estimate in the aggregate as to the cost of compliance with the rule by the affected entities:</b>
99	Hospitals	Estimated cost for SFY 2019 \$29.3 million

**III. WORKSHEET**

**Estimated Assessment at 5.60% for SFY 2019:**

	No. of Facilities	Inpatient Revenues	Outpatient Revenues	Total
Private Facilities Revenues	99	\$7,988,521,499	\$8,882,143,205	\$16,870,664,704
FRA Assessment Rate		5.60%	5.60%	5.60%
Total Assessment without Trend		\$447,357,204	\$497,400,019	\$944,757,223

**IV. ASSUMPTIONS**

This fiscal note reflects the total FRA Assessment of 5.60% for July 1, 2018 through June 30, 2019. The FRA Assessment to be collected during SFY 2019 is estimated at approximately \$944.8 million which is an FRA Assessment increase to the private facilities of approximately \$29.3 million as compared to the SFY 2018 FRA Assessment. Note that the FRA Assessment for SFY 2018 was 5.70% for the first quarter and 5.50% for the last three quarters.

The fiscal note is based on establishing the FRA assessment rate as noted above and a trend of 0.0% on inpatient and outpatient revenues effective for dates of service beginning July 1, 2018. The FRA assessment rate is levied upon Missouri hospitals' trended, inpatient and outpatient net adjusted revenues in accordance with the Missouri Partnership Plan.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2200—State Board of Nursing  
Chapter 4—General Rules**

**PROPOSED AMENDMENT**

**20 CSR 2200-4.020 Requirements for Licensure.** The board is amending sections (1), (2), (3), (5), and (7)–(13), deleting section (6), and renumbering as necessary.

*PURPOSE: This amendment updates the requirements for nurse licensure.*

(1) Examination.

(A) Written examination as used in Chapter 335, RSMo, shall mean *[either a paper and pencil examination or a computerized adaptive]* the National Council of State Boards of Nursing's licensure examination.

(D) The candidate *[shall make written application to the Missouri State Board of Nursing for permission to take the licensing examination for professional/practical nurses. Application forms for the licensing examination shall be obtained from the Missouri State Board of Nursing.]* must file a complete application containing data and documents required by the board. The application must be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid from one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.

1. Any applicant applying for the practical nurse licensing examination who is deficient in theory, clinical experience, or both, as stated in 20 CSR 2200, Chapter 3—Practical Nursing, and has not earned a practical nursing degree or met the requirements for a comparable period of training as determined by the board pursuant to 20 CSR 2200-4.020(1)(B) or (C), will not be approved.

(E) *[A completed application for the licensing examination signed and accompanied by one (1) two-inch by two-inch (2" × 2") portrait/photograph of the applicant shall be submitted to the Missouri State Board of Nursing for evaluation along with the required examination fee, and proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check prior to the established deadline date set by the Missouri State Board of Nursing. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All fees are nonrefundable. Note: The name appearing on the application will be the only legal name of the individual recognized by the Missouri State Board of Nursing unless evidence of the change in name has been submitted.]* The applicant shall submit to state and federal fingerprint or other biometric criminal background checks.

(F) An application for *[a candidate's first licensing]* licensure by examination *[in Missouri shall bear the school seal and the signature of the director of the program of professional/practical nursing. This shall indicate the endorsement of the candidate to take the licensing examination. The affidavit portion of the application shall be properly executed before a notary public.]* shall include verification of graduation or eligibility for graduation from an approved nursing program.

(G) The term first licensing examination scheduled by the board,

as used in section 335.081, RSMo, *[shall]* means the first licensure examination taken by the *[student]* applicant which must be taken within ninety (90) days of graduation.

(H) An applicant for licensure by endorsement or licensure by examination who answers yes to one (1) or more of the questions on the application or the fingerprint checks reveal charges and/or convictions which relate to possible grounds for denial of licensure under section 335.066, RSMo shall submit copies of appropriate documents, as requested by the board, related to that answer or the fingerprint check before his/her application will be considered complete. The copies shall be certified if they are records of a court or administrative government agency. An applicant for licensure by endorsement or licensure by examination who the executive director or designee determines may not meet the requirements for licensure or examination shall be notified that the application will be reviewed by the members of the board at the board's next regular scheduled meeting following receipt of all requested documents. The Missouri State Board of Nursing shall notify *[, by certified mail or delivery,]* any individual who is refused permission to take an examination for licensure or an individual licensed in another state, territory, or foreign country that is denied a license by endorsement without examination. At the time of notification, this individual is to be made aware of his/her avenue of appeal through the Missouri Administrative Hearing Commission.

(J) An original examination report *[shall]* will be forwarded to the examinee. A copy *[shall]* will be retained in the permanent application on file in the Missouri State Board of Nursing office. A composite report *[shall]* will be forwarded to the director of each program of professional/ practical nursing listing the names of the candidates and the pass/fail designation for each candidate.

(L) *[There shall be a thirty (30)-day grace period for graduates who have successfully passed the first available licensing examination in another state following graduation to obtain a temporary permit or license in Missouri after the graduate has received his/her results.]* Proof of United States citizenship or alien status as specified in 8 U.S.C.A. section 1621 or lawful presence as specified in section 208.009, RSMo.

(M) Requests for Examination Modification.

1. The Missouri State Board of Nursing and its test service *[shall]* will determine if a candidate *[shall]* will be allowed modification of the examination if the candidate requests the modification because of a disability defined by the Americans with Disabilities Act.

2. The candidate requesting modification shall submit a request to the Missouri State Board of Nursing. The request shall contain—

A. A letter from the candidate's nursing education program indicating what modifications, if any, were granted by that program;

B. Appropriate documentation supporting the request for accommodation from a qualified professional with expertise in the areas of the diagnosed disability. Documentation must include:

(I) A history of the disability and any past accommodation granted the candidate and a description of its impact on the individual's functioning;

(II) Identification of the specific standardized and professionally recognized tests/assessments given (e.g., Woodcock-Johnson, Weschler Adult Intelligence Scale);

(III) Clinical diagnoses of disability (where applicable, list the DSM Code Number and Title);

(IV) The scores resulting from testing, interpretation of the scores, and evaluations; and

(V) Recommendations for testing accommodations with a stated rationale as to why the requested accommodation is necessary and appropriate for the diagnosed disability; and

C. A letter from the applicant requesting the modifications detailing the specific modifications and explaining the rationale for the modifications.

3. When the request is received from the candidate with the previously listed items, the request will be reviewed.

4. If approved, a request for modification of an examination will be submitted to *[the National Council of State Boards of Nursing, Incorporated]* the test service.

*[5. After the National Council of State Boards of Nursing, Incorporated has reported its decision to the Missouri State Board of Nursing, the candidate will be notified of the decision.]*

*6. A handicapped individual is defined in the Rehabilitation Act of 1973.]*

(2) Repeat Examination.

(A) A candidate who does not achieve the passing designation as determined by the Missouri State Board of Nursing shall not qualify to receive a license to practice professional/practical nursing in Missouri. **A repeat examination application will be provided to the candidate with the exam results.** It shall be unlawful for any person to practice professional/practical nursing in Missouri as a graduate nurse after failure of the National Council of State Boards of Nursing, Incorporated licensure examination until successfully passing the examination and receiving a license.

*[(B) A candidate who does not achieve the passing designation who wishes to review, challenge, or both, the National Council Licensure Examination must send a written letter of request to the Missouri State Board of Nursing office no later than four (4) months after release of examination results to the candidate.]*

*(C) If approved, the request is submitted to the National Council of State Boards of Nursing, Incorporated. A board fee may be charged.]*

*(D) A candidate who does not achieve the passing designation shall be notified. No further examination notices shall be issued by the Missouri State Board of Nursing.]*

*[(E)](B) [The required fee shall be submitted to the Missouri State Board of Nursing office each time the candidate applies for the examination and is nonrefundable.] In order to retake the licensure examination, the candidate must file a repeat examination application containing data and documents required by the board. The repeat examination application must be properly attested to and executed before a notary public. Any repeat examination application submitted to the board is valid one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new repeat examination application. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.]*

(C) The applicant shall submit to state and federal fingerprint or other biometric criminal background checks if the applicant's previous background checks are more than one (1) year old.

(3) A graduate of a nursing program may practice as a graduate nurse until he/she has received the results of the first licensure examination taken by the nurse or until ninety (90) days after graduation, whichever first occurs. **The graduate nurse shall practice with proper supervision. Proper supervision means the general oversight and initial and ongoing direction in any given situation including, but not limited to, orientation, procedural guidance, and periodic inspection and evaluations.**

(5) Licensure by Endorsement in Missouri—Registered Nurses (RNs) and Licensed Practical Nurses (LPNs).

(A) A professional/practical nurse licensed in another state or territory of the United States *[shall be]* **may be** entitled to licensure provided qualifications are equivalent to the requirements of Missouri at the time of original licensure. This equivalency *[shall be]* is defined as—

1. Evidence of completion and graduation from an approved program of professional/practical nursing if educated in a state of the United States; a course-by-course evaluation report received directly

from a credentials evaluation service approved by the board or a Commission on Graduates of Foreign Nursing Schools (CGFNS) certificate if the initial nursing education was earned in a territory, Canada, or another country;

2. Attainment of a passing standard score or pass designation as determined by the Missouri State Board of Nursing on the licensing examination or attainment of an acceptable grade in areas comparable to those required in Missouri at the time licensure was secured in the state of original licensure;

3. Evidence of completion of the applicable secondary education set forth in section 335.046, RSMo, requirements or the equivalent as determined by the State Department of Education;

4. Applicants who are not citizens of the United States who have completed programs in schools of professional/practical nursing in states which require citizenship for licensure may take the National Council Licensure Examination for professional/practical nurses in Missouri if they meet all of Missouri's requirements; and

5. If an individual was licensed by waiver as a practical/vocational nurse in another state, territory, or foreign country prior to July 1, 1955, and the individual meets the requirements for licensure as a practical nurse in Missouri which were in effect at the time the individual was licensed in the other jurisdiction, she/he is eligible for licensure in Missouri as an LPN. If an individual is licensed by waiver in another state after July 1, 1955, she/he does not qualify for licensure by waiver in Missouri as a practical nurse.

(B) Procedure for Application.

1. *[An applicant should request an application for endorsement licensure from the Missouri State Board of Nursing. The request shall include the full name, current mailing address and state of original licensure.]* **The applicant must file a complete application containing data and documents required by the board. The application must be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid for one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application, along with the required fee. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.**

2. *[The application for endorsement licensure shall be completed in black ink with the affidavit portion properly executed before a notary public and submitted with the required application fee, and proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All fees are nonrefundable. The application shall be submitted to the Missouri State Board of Nursing.]* **The applicant shall submit to state and federal fingerprint or other biometric criminal background checks as administered through the Missouri State Highway Patrol.**

3. *[The endorsement/verification of licensure form shall be forwarded by the applicant to the board of nursing for completion in the state or territory of original licensure by examination, or to Canada, with a request to submit the completed form to the Missouri State Board of Nursing]* **applicant shall provide for receipt of official verification of licensure from all states and/or territories.**

4. The applicant shall cause an official nursing transcript to be forwarded directly to the Missouri State Board of Nursing office if a transcript is requested by the executive director or designee.

5. *[A final evaluation of the submitted application shall be made only after all required credentials are assembled.]* **Proof of United States citizenship or alien status as specified in 8 U.S.C.A. section 1621 or lawful presence as specified in section**

**208.009, RSMo.**

6. *[The applicant shall be notified of this evaluation for licensure.]* **The board will not review a submitted application for licensure until such time as all required credentials are received.**

*[(6) Applicants Not Meeting Requirements.*

(A) *An applicant who does not meet the Missouri requirements for licensure at the time of completion of a program of professional/practical nursing shall be advised regarding the necessary steps for qualification on the basis of the particular deficiency.*

(B) *An applicant who has not attained the passing score or grade on the licensing examination as required by the Missouri State Board of Nursing at the time of original licensure shall be required to take the current National Council Licensure Examination (NCLEX®) and receive a pass designation prior to licensure.*

(C) *A professional/practical nurse licensed in another state or territory of the United States shall be entitled to licensure; provided, qualifications are equivalent to the requirements in Missouri at the time of original licensure.]*

*[(7)](6) Temporary Permit.*

(A) *[Applicants wishing to practice professional/practical nursing in Missouri following the evaluation of the application and transcript, if requested to determine if the applicant meets licensure requirements in Missouri, should submit a copy of a current nursing license from another state, territory, or Canada.]* A single state temporary permit may be secured for a limited period of time six (6) months **if otherwise eligible pursuant to Chapter 335, RSMo and these regulations** until licensure is granted or denied by the Missouri State Board of Nursing or until the temporary permit expires, whichever comes first. If the applicant does not hold a current nursing license in another state, territory, or Canada, a temporary permit may be issued upon receipt of a completed endorsement verification of licensure **[form] from the applicant's original state of licensure by examination** and transcript, if requested. *[Applicants from Canada may apply for a temporary permit provided for by rule.]*

*[(8)](7) Intercountry Licensure by Examination in Missouri—RN and LPN.*

(A) Application Procedure.

1. A professional/practical nurse educated outside a state of the United States **[shall] may** be entitled to apply to take the examination for licensure if, in the opinion of the Missouri State Board of Nursing, current requirements for licensure in Missouri are met.

2. *[An applicant must request an Application for Professional/Practical Nurse Licensure by Examination. The request shall include the applicant's full name, current mailing address, and country of original licensure. The application shall be properly executed by the applicant in black ink and shall be included in the documents submitted to the Missouri State Board of Nursing for evaluation with the required credentials. All original documents shall be returned to the applicant.]* **The applicant shall file a complete application containing data and documents required by the board. The application shall be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid for one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application, along with the required fee. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant. Credentials in a foreign language shall be submitted in their original language and also a duplicate set translated into English, the translation shall be signed by the translator, and the signature shall be notarized by a notary public. The translation shall be**

attached to the credentials in a foreign language when submitted to the Missouri State Board of Nursing.

3. The required credentials for practical nurse applicants are—

A. A course-by-course evaluation report **and credentials evaluation report** received directly from a foreign **or other** credentials evaluation service approved by the board;

B. A photostatic copy of birth certificate (if a copy of birth certificate is not available, copy of baptismal certificate, passport, or notarized statement from an authorized agency will be accepted as verification of name, date of birth, and place of birth);

C. Photostatic copy of marriage license/certificate (if applicable);

D. Evidence of English-language proficiency by any of the following **submitted directly from the testing agency**:

(I) Test of English as a Foreign Language (TOEFL) [www.toefl.org](http://www.toefl.org) with a passing score of five hundred forty (540) on the paper examination or a passing score of two hundred seven (207) for the computerized examination or a passing score of seventy-six (76) on the Internet-based exam; or

(II) Test of English for International Communication (TOEIC) [www.toeic.com](http://www.toeic.com) with a passing score of seven hundred twenty-five (725); or

(III) International English Language Testing System (IELTS) [www.ielts.org](http://www.ielts.org) with a passing score in the academic module of six and one-half (6.5) and the Spoken Band score of seven (7);

E. Test of Spoken English (TSE®) Certificate indicating that the applicant has obtained a minimum overall score of fifty (50);

F. Photostatic copy of original license issued by the licensing agency where original licensure/registration was secured by examination; *[and]*

G. *[The completed application must be accompanied by one (1) two-inch by two-inch (2" × 2") portrait/photograph of the applicant, and proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor, and the required application fee. All fees are nonrefundable.]* **Copy of Passport;**

**H. Copy of original education certificate/diploma;**

**I. Copy of Transcript/Marksheet;**

**J. Copy of nursing education program transcripts and copy of certificate (if any);**

**K. Professional/Health License issued by the regulator of the country last worked in or home country professional / health license;**

**L. Employment Certificate/Experience Certificate/Relieving Letter/Last appraisal letter (if this includes the employment start date)/First and last salary slip (Recommendation letters are not acceptable documents for employment verification); and**

**M. The applicant shall submit to state and federal fingerprint or other biometric criminal background checks as administered through the Missouri State Highway Patrol.**

4. The required credentials for professional nurse applicants are—

A. A course-by-course evaluation report received directly from a credentials evaluation service approved by the board or Commission on Graduates of Foreign Nursing Schools (CGFNS) certificate and evidence of English-language proficiency **submitted directly from the testing agency**. Any of the following is considered evidence of English-language proficiency:

(I) Test of English as a Foreign Language (TOEFL) [www.toefl.org](http://www.toefl.org) with a passing score of five hundred forty (540) on the paper examination or a passing score of two hundred seven (207) for the computerized examination or a passing score of seventy-six (76) on the Internet-based exam; or

(II) Test of English for International Communication (TOEIC) www.toEIC.com with a passing score of seven hundred twenty-five (725); or

(III) International English Language Testing System (IELTS) www.ielts.org with a passing score in the academic module of six and one-half (6.5) and the Spoken Band score of seven (7).

**B. Test of Spoken English (TSE®) Certificate indicating that the applicant has obtained a minimum overall score of fifty (50);**

*[B./C.* A photostatic copy of birth certificate (if a copy of birth certificate is not available, a copy of baptismal certificate, passport, or notarized statement from authorized agency will be accepted as verification of name, date of birth and place of birth);

*[D./D.* Photostatic copy of original license or certificate issued by the licensing agency where original licensure/registration was secured by examination;

*[D./E.* Photostatic copy of marriage license/certificate (if applicable); *and]*

*[E./E.* *[The completed examination application with the required examination fee, one (1) two-inch by two-inch (2" × 2") portrait/photograph of the applicant, and proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background check shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All the credentials shall be submitted to the Missouri State Board of Nursing.]* Copy of original education certificate/diploma;

**G. Copy of Transcript/Marksheet;**

**H. Copy of nursing education program transcripts and copy of certificate (if any);**

**I. Professional/Health License issued by the regulator of the country last worked in or home country professional / health license;**

**J. Employment Certificate/Experience Certificate/Relieving Letter/Last appraisal letter (if this includes the employment start date)/First and last salary slip (Recommendation letters are not acceptable documents for employment verification); and**

**K. Copy of passport.**

*[(B) Unqualified Applicants. An applicant who does not meet Missouri's current minimum requirements for licensure shall be advised regarding the necessary steps for qualification.*

*[(C) The board of nursing will cooperate with the United States Immigration Service by advising it of the status of the applicant for nursing licensure, if requested.]*

*[(9)](8) Licensure Renewal.*

(A) Renewal periods shall be for one (1), two (2), or three (3) years as determined by the board.

(B) The required fee and information related to the nurse's practice and demographics for the purpose of collecting nursing workforce data shall be submitted prior to the expiration date of the license *[lapses]*.

(C) In answer to requests for information regarding an individual's licensure, the staff of the board will verify status and other information as deemed appropriate by the executive director.

(D) The renewal application, any required documents and the appropriate fee should be received by the board a minimum of three (3) business days prior to the expiration date of the nurse's current license in order for the board to process the application prior to the expiration date. Failure to do so may result in the license becoming lapsed, which will require the nurse to complete a new application as set forth in 20 CSR 2200-4.020(10).

*[(10)](9) Inactive Licenses.*

(A) Any nurse possessing a current license to practice nursing in Missouri may place that license on inactive status by filing a written and signed request for inactive status with the board. This request may be accomplished, but need not be, by signing the request for inactive status which appears on the nurse's application for license renewal and returning that application to the board prior to the date the license *[has lapsed]* expires. An inactive license shall be deemed expired.

(B) Individuals wishing to reactivate licenses *[after being carried as inactive shall request a Petition for Renewal from the Missouri State Board of Nursing. Fees shall be accepted only if accompanied by a completed Petition for Renewal. The Petition for Renewal shall be accompanied by proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check prior to the established deadline date set by the Missouri State Board of Nursing. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All fees are nonrefundable. Back fees shall not be required for the years the licensee's records were carried as inactive. The Petition for Renewal shall also show, under oath or affirmation of the nurse, a statement—]* shall file a petition for license renewal containing data and documents required by the board. The petition must be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid for one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application, along with the required fee. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.

1. *[That the nurse is not presently practicing nursing in Missouri; and]* The applicant must submit to state and federal fingerprint or other biometric criminal background checks as administered through the Missouri State Highway Patrol.

2. *[As to whether the]* If a nurse did practice nursing while the license was inactive *[and, if so,]* the nurse must disclose how long and where the practice of nursing occurred. If the nurse was practicing nursing in Missouri at the time his/her license was inactive, he/she also must submit a notarized statement indicating *[that]* whether and when he/she ceased working as soon as he/she realized that the license was inactive. In addition, the nurse must cause his/her employer to submit a statement on the employer's letterhead stationery or a notarized statement indicating *[that]* whether and when the nurse ceased working as soon as he/she realized that the license was inactive.

(C) No person shall practice nursing or hold him/herself out as a nurse in Missouri while his/her license is inactive.

(D) A nurse who *[petitions]* applies for renewal of an inactive license who answers yes to one (1) or more of the questions on the petition which relate to possible grounds for denial of renewal under section 335.066, RSMo, shall submit copies of appropriate documents related to that answer, as requested by the board, before his/her *[petition]* application will be considered complete. The copies shall be certified if they are records of a court or administrative government agency. If a nurse requesting reinstatement of his/her inactive license is denied by the State Board of Nursing based upon the fact that the nurse is subject to disciplinary action under any provisions of Chapter 335, RSMo, the nurse *[shall]* will be notified of the statutory right to file a complaint with the Administrative Hearing Commission.

(E) A nurse whose license is inactive for three (3) years or more shall file the *[petition]* application, documents, and fees required in subsection (10)(B). In addition, the nurse may be required to appear before the board personally and demonstrate evidence of current

nursing knowledge and may be required to successfully complete *[an oral or written examination, or both, provided by the board]* **the National Council of State Boards of Nursing's licensure examination** or to present proof of regular licensed nursing practice in *[other states]* **another state(s)** during that time period.

*[(11)](10)* Lapsed Licenses, When—Procedures for Reinstatement.

(A) Pursuant to sections 335.056 and 335.061, RSMo, a license issued by the State Board of Nursing to an RN or LPN is lapsed if the nurse fails to renew that license *[in a timely fashion. A license renewal is timely if the nurse mails a completed application for renewal, accompanied by the requisite fee, in a properly stamped and addressed envelope, postmarked no later than the expiration date of the nurse's current license. No person shall practice nursing or hold him/herself out as a nurse in Missouri while his/her license is registered with the State Board of Nursing as being lapsed.]* prior to the expiration date. **A lapsed license is deemed expired. No person shall practice nursing or hold him/herself out as a nurse in Missouri while his/her license is lapsed.**

(B) A nurse whose license has lapsed in Missouri *[for fewer than thirty (30) days may obtain renewal of that license by mailing the requisite fee to the proper address and postmarked no later than the thirtieth day of lapse. Satisfactory explanation of the lapse will be presumed. The State Board of Nursing, in its discretion, may not renew the license of any nurse who is subject to disciplinary action under Chapter 335, RSMo, but the board shall advise the nurse of the statutory right to file a complaint with the Administrative Hearing Commission.]* shall file a petition for license renewal containing data and documents required by the board. **The petition must be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid for one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application, along with the required fee. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.**

*[(C)]* A nurse whose license has lapsed in Missouri for thirty (30) days or more, but fewer than three (3) years, must petition the State Board of Nursing for renewal of the license on a form furnished by the board. *Accompanying the petition shall be a late renewal fee, the fee for the current renewal period as outlined in 20 CSR 2200-4.010, and proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check prior to the established deadline date set by the Missouri State Board of Nursing. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All fees are nonrefundable. If the nurse has practiced nursing in Missouri while the license was lapsed, in order to renew, the licensee must pay the lapsed fee, the renewal fee for each year he/she practiced nursing in Missouri, and the fee for the current renewal period. This petition shall show under oath or affirmation of the nurse—]*

1. *[A statement that the nurse is not presently practicing nursing in Missouri;]* **The applicant must submit to state and federal fingerprint or other biometric criminal background checks as administered through the Missouri State Highway Patrol; and**

2. *[A statement as to whether the nurse did practice nursing while the license was lapsed and, if so, how long and where; and]*

*[3.]2.* If the nurse was practicing nursing in Missouri at the time his/her license was lapsed, he/she must submit a notarized statement indicating that he/she ceased working as soon as he/she realized *[that]* **whether and when** the license was lapsed. In addition, the nurse must cause his/her employer to submit a statement on the employer's letterhead stationery or a notarized statement indicating *[that]* **whether and when** the nurse ceased working as soon as he/she realized that the license was lapsed.

*[(D)](C)* A nurse whose license is lapsed for three (3) years or more shall file the same *[petition]* **application**, documents, and fees required in subsection (11)*[(C)](B)*. In addition, the nurse may be required to appear before the board personally and demonstrate evidence of current nursing knowledge and may be required to successfully complete *[an examination provided by the board]* **the National Council of State Boards of Nursing's licensure examination** or by proof of regular licensed nursing practice in *[other states]* **another state(s)** during that time period.

*[(E)](D)* Upon satisfactory completion of the requirements specified in subsections *[(11)(B)–(D)] (10)(B)–(C)* which are pertinent to that nurse, the board reserves the right to refuse to reinstate the lapsed license of any nurse, including one who is subject to disciplinary action under any provisions of Chapter 335, RSMo, which includes disciplinary action for practicing nursing without a license while that license is lapsed. A nurse who is petitioning for renewal of a lapsed license who answers yes to one (1) or more of the questions on the petition which relate to possible grounds for denial of renewal under section 335.066, RSMo, shall submit copies of appropriate documents, as requested by the board, related to that answer before his/her petition will be considered complete. The copies shall be certified if they are records of a court or administrative government agency. If a lapsed license is not reinstated, the board *[shall]* **will** notify the nurse of the fact and the statutory right to file a complaint with the Administrative Hearing Commission.

*[(F)](E)* If any provision of this rule is declared invalid by a court or agency of competent jurisdiction, the balance of this rule shall remain in full force and effect, severable from the invalid portion.

*[(12)](11)* Change of Name, Address, or Both.

(A) Original License. The original license may not be altered in any way; *it must remain in the name under which it was issued.*

(B) Current License.

1. Each Missouri licensed nurse shall notify the board within thirty (30) days of each name change.

2. Each Missouri licensed nurse shall notify the board within thirty (30) days of each address change.

*[(13)](12)* Retired License Status.

(A) An applicant for renewal of a nurse license who is retired from the profession may apply for a retired license status by completing a form provided by the board.

(B) Retired from the profession means that the licensee does not intend to practice nursing for monetary compensation for at least two (2) years; **however**, such person may provide volunteer services. **A retired license will only be a single-state license.**

(C) A licensee may qualify for retired license status provided the licensee:

1. Is retired from the profession;
2. Holds a current, unrestricted, and undisciplined nurse license; and
3. Submits the required form.

(D) Retired license renewal for a professional nurse *[shall be]* is biennial; occurring on odd-numbered years, and the license *[shall]* **will** expire on April 30 of each odd-numbered year. Retired license renewal for a practical nurse *[shall be]* is biennial; occurring on even-numbered years, and the license *[shall]* **will** expire on May 31 of each even-numbered year.

(E) Individuals wishing to reactivate licenses after being *[carried]*

as] retired [shall request a Petition for Renewal from the board. Fees shall be accepted only if accompanied by a completed petition for renewal. The Petition for Renewal shall be accompanied by proof of submission of fingerprints to the Missouri State Highway Patrol's approved vendor for both a Missouri State Highway Patrol and Federal Bureau of Investigation fingerprint background check prior to the established deadline date set by the Missouri State Board of Nursing. Proof shall consist of any documentation acceptable to the board. Any fees due for fingerprint background checks shall be paid by the applicant directly to the Missouri State Highway Patrol or its approved vendor. All fees are nonrefundable. Back fees shall not be required for the years the licensee's records were carried as retired. The Petition for Renewal shall show, under oath or affirmation of the nurse, a statement—] shall file a petition for license renewal containing data and documents required by the board. The petition shall be properly attested to and executed before a notary public. Any application for licensure submitted to the board is valid for one (1) year from the date the application is notarized. After the expiration of one (1) year, an applicant shall submit a new application, along with the required fee. An application notarized more than sixty (60) days prior to receipt by the Missouri State Board of Nursing will be rejected and returned to the applicant.

[1. That the nurse is not presently practicing nursing in Missouri for monetary compensation; and]

[2.]1. [As to whether the] If a nurse did practice nursing for monetary compensation while the license was retired [and, if so, how long and where. If the nurse was practicing nursing for monetary compensation in Missouri at the time his/her license was retired, he/she also must] the nurse must disclose how long and where and submit a notarized statement indicating employment dates, employer names and addresses, and an explanation of why the nurse practiced for compensation while the license was retired. In addition, the nurse must cause his/her employer to submit a statement on the employer's letterhead stationery or a notarized statement indicating [that] whether and when the nurse ceased working as soon as he/she realized that the license was retired.

(F) A nurse who petitions for renewal of a retired license, who answers yes to one (1) or more of the questions on the petition which relate to possible grounds for denial of renewal under section 335.066, RSMo, shall submit copies of appropriate documents related to that answer, as requested by the board, before his/her petition will be considered complete. The copies shall be certified if they are records of a court or administrative government agency. If a nurse requesting reinstatement of his/her retired license is denied by the State Board of Nursing based upon the fact that the nurse is subject to disciplinary action under any provisions of Chapter 335, RSMo, the nurse shall be notified of the statutory right to file a complaint with the Administrative Hearing Commission.

*AUTHORITY: sections 335.036.1(2) and (7), 335.046, 335.051, and 335.066, RSMo 2016. This rule originally filed as 4 CSR 200-4.020. Original rule filed Oct. 14, 1981, effective Jan. 14, 1982. For intervening history, please consult the Code of State Regulations. Amended: Filed June 22, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed rule will save private entities approximately three thousand one hundred twelve dollars (\$3,112) annually for the life of the rule. It is anticipated that the costs will recur for the life of the rule, may vary with inflation, and are expected to increase at the rate projected by the Legislative Oversight Committee.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the State Board of Nursing, Lori Scheidt, Executive Director, PO Box 656, Jefferson City, MO 65102, by fax at (573) 751-0075 or via email at nursing@pr.mo.gov. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**PRIVATE ENTITY FISCAL NOTE**

**I. RULE NUMBER**

**Title 20 - Department of Insurance, Financial Institutions and Professional Registration**  
**Division 2200 - State Board of Nursing**  
**Chapter 4 - General Rules**  
**Proposed Rule - 20 CSR 2200-4.020 - Requirements for Licensure**

**II. SUMMARY OF FISCAL IMPACT**

**Annual Cost of Compliance for the Life of the Rule**

Estimate the number of entities by class which would likely be affected by the adoption of the proposed rule:	Classification by type of the business entities which would likely be affected:	Estimated cost of compliance with the rule by affected entities:
1	Registered Professional Nurse Applicants (License by Exam Fee of \$45)	\$45
1	Licensed Practical Nurse Applicants (License by Exam Fee of \$41)	\$41
5	Registered Professional Nurse Applicants (License by Intercountry Licensure Fee of \$45)	\$225
1	Licensed Practical Nurse Applicants (License by Intercountry Licensure Fee of \$41)	\$41
1	Registered Professional Nurse Applicants (License by Inactive Licensure Reinstatement Fee of \$60)	\$60
1	Licensed Practical Nurse Applicants (License by Inactive Licensure Reinstatement Fee of \$60)	\$60
1	Registered Professional Nurse Applicants (License by Lapsed Licensure Reinstatement Fee of \$60 and Lapsed Fee of \$50)	\$110
1	Licensed Practical Nurse Applicants (License by Lapsed Licensure Reinstatement Fee of \$52 and Lapsed Fee of \$50)	\$102
0	Registered Professional Nurse Applicants (License by Retired Licensure Reactivation Fee of \$60)	\$0
0	Licensed Practical Nurse Applicants (License by Retired Licensure Reactivation Fee of \$52)	\$0
1	Registered Professional Nurse Applicants (Reexamination Fee of \$40)	\$40

1	Licensed Practical Nurse Applicants (Reexamination Fee of \$40)	\$40
10	Registered Professional Nurse Applicants (License by Endorsement Fee of \$55)	\$550
5	Licensed Practical Nurse Applicants (License by Endorsement Fee of \$51)	\$255
29	Nursing Applicants (Background Check - \$44.80)	\$1,299
15	Nursing Applicants (Verification - \$10)	\$150
34	Nursing Applicants (Notary - \$2.00)	\$68
29	Nursing Applicants (Application Postage - \$.90)	\$26.10
	<b>Estimated Annual Cost of Compliance for the Life of the Rule</b>	<b>\$3,112</b>

### III. WORKSHEET

See table above.

### IV. ASSUMPTION

1. The figures reported above are based on staff estimates.
2. The board estimates that there will be twenty-nine (29) applicants each year that will resubmit applications after the expiration of the one year period and five (5) applicants would have to resubmit an application that was notarized more than sixty (60) days prior to receipt by the board.
3. Most states have eliminated the verification fee, however, the \$10 amount is an average verification fee charged by the remaining states.
4. The board only receives about one reciprocity application per year. It is not anticipated that reciprocity applicants will reapply after one year.
5. Copy costs are not calculated.
6. It is anticipated that the total cost will recur for the life of the rule, may vary with inflation and is expected to increase at the rate projected by the Legislative Oversight Committee.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2200—State Board of Nursing  
Chapter 4—General Rules**

**PROPOSED AMENDMENT**

**20 CSR 2200-4.030 Public Complaint Handling and Disposition Procedure.** The board is amending sections (3), (4), (6), and (7), and deleting sections (9) and (10).

*PURPOSE:* This amendment deletes unnecessary language regarding the complaint procedure, clarifies how the board investigates complaint and removes unnecessary regulatory restrictions.

(3) The State Board of Nursing *[shall]* will receive and process each complaint made against any licensee or permit holder, which complaint alleges certain acts or practices which may constitute one (1) or more violations of the provisions of Chapter 335, RSMo. This only applies to complaints where there is sufficient information to investigate and the allegation(s), if true, would be a violation of the Nursing Practice Act. Any member of the public or profession, or any federal, state, or local officials may make and file a complaint with the board. No member of the State Board of Nursing *[shall]* may file a complaint with this board while holding that office, unless that member is excused from further board deliberations or activity concerning the matters alleged within that complaint. The executive director or any staff member of the board may file a complaint pursuant to this rule in the same manner as any member of the public.

(4) Complaints should be *[mailed, faxed, or delivered to the following address: Executive Director,]* submitted to the Missouri State Board of Nursing, 3605 Missouri Boulevard, PO Box 656, Jefferson City, MO 65102-0656].

(6) Each complaint received under this rule shall be logged in a *[book]* computer database maintained by the board for that purpose. *[Complaints shall be logged in consecutive order as received.]* The *[logbook]* database shall contain a record of each complainant's name and address; the name and address of the subject(s) of the complaint; the date each complaint is received by the board; a brief statement of the acts complained of; a notation whether the complaint resulted in its dismissal by the board or informal charges being filed with the Administrative Hearing Commission; and the ultimate disposition of the complaint. This *[logbook]* database shall be a closed record of the board.

(7) *[Each complaint received under this rule shall be acknowledged in writing. The complainant shall be informed as to whether the complaint is being investigated and later, if applicable, as to whether the complaint has been dismissed by the board.]* The complainant *[shall]* will be notified of the disciplinary action taken, if any. The provisions of this section shall not apply to complaints filed by staff members of the board based on information and belief, acting in reliance on third-party information received by the board.

*[(9) This rule shall not be deemed to limit the board's authority to file a complaint with the Administrative Hearing Commission charging a licensee of the board with any actionable conduct or violation, whether or not such a complaint exceeds the scope of the acts charged in a preliminary public complaint filed with the board and whether or not any public complaint has been filed with the board.]*

*[(10) The board interprets this rule, which is required by law, to exist for the benefit of those members of the public who*

*submit complaints to the board and for those persons or entities within the legislative and executive branches of government having supervisory or other responsibilities or control over the professional licensing boards. This rule is not deemed to protect or insure to the benefit of those licensees, permit holders, registrants or other persons against whom the board has instituted or may institute administrative or judicial proceeding concerning possible violations of the provisions of Chapter 335, RSMo.]*

*AUTHORITY:* sections 324.002 and 335.036, RSMo [Supp. 2013] 2016. This rule originally filed as 4 CSR 200-4.030. Original rule filed Feb. 10, 1982, effective May 13, 1982. For intervening history, please consult the Code of State Regulations. Amended: Filed June 22, 2018.

*PUBLIC COST:* This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.

*PRIVATE COST:* This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.

*NOTICE TO SUBMIT COMMENTS:* Anyone may file a statement in support of or in opposition to this proposed amendment with the State Board of Nursing, Lori Scheidt, Executive Director, PO Box 656, Jefferson City, MO 65102, by fax at (573) 751-0075, or via email at nursing@pr.mo.gov. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2200—State Board of Nursing  
Chapter 4—General Rules**

**PROPOSED AMENDMENT**

**20 CSR 2200-4.040 Mandatory Reporting Rule.** The board is amending sections (1), (2), and (4).

*PURPOSE:* This amendment clarifies the guidelines for mandatory reporting.

(1) The State Board of Nursing *[shall]* will receive and process any report from a hospital, ambulatory surgical center, *[or]* as such terms are defined in Chapter 197, RSMo, temporary nursing staffing agency, nursing home, any nursing facility as such term is defined in Chapter 198, RSMo, or any entity that employs or contracts with nurses to provide health care services to individuals concerning any disciplinary action against a nurse licensed under Chapter 335, RSMo or the voluntary resignation of any such nurse against whom any complaints or reports have been made which might have led to disciplinary action. Disciplinary action is defined in section 383.130, RSMo as any final action taken by the board of trustees or similarly empowered officials of a hospital or ambulatory surgical center, or owner or operator of a temporary nursing staffing agency, to reprimand, discipline, or restrict the practice of a health care professional. Only such reprimands, discipline, or restrictions in response to activities which are also grounds for disciplinary actions according to the professional licensing law for that health care professional shall be considered disciplinary actions for purposes of this definition.

(2) *[Reports to the board shall be in writing and shall comply with the minimum requirements as set forth in this rule.]* The

Board of Nursing will assume that all reports received from hospitals, ambulatory surgical centers, *[or] as such terms are defined in Chapter 197, RSMo*, temporary nursing staffing agencies, *nursing homes, any nursing facilities as such term is defined in Chapter 198, RSMo*, or any entities that employs or contracts with nurses to provide health care services to individuals will be treated as provided under section 383.133, RSMo. The information shall be submitted within fifteen (15) days of the final disciplinary action, and *[shall] should* contain, but need not be limited to—

(4) Any activity that is construed to be a cause for disciplinary action according to section 335.066, RSMo *[shall be deemed]* is reportable to the board. Nothing in this rule shall be construed as limiting or prohibiting any person from reporting a violation of the Nursing Practice Act directly to the State Board of Nursing.

*AUTHORITY: sections 335.036 and 383.133, RSMo [Supp. 2007] 2016. This rule originally filed as 4 CSR 200-4.040. Original rule filed Aug. 5, 1987, effective Nov. 12, 1987. For intervening history, please consult the Code of State Regulations. Amended: Filed June 22, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the State Board of Nursing, Lori Scheidt, Executive Director, PO Box 656, Jefferson City, MO 65102, by fax at (573) 751-0075, or via email at nursing@pr.mo.gov. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2200—State Board of Nursing  
Chapter 4—General Rules**

**PROPOSED AMENDMENT**

**20 CSR 2200-4.100 Advanced Practice Registered Nurse.** The board is amending all sections of the rule.

*PURPOSE: This amendment brings the regulation in line with current statutory language, equalizes the requirements for maintenance of the Document of Recognition for the uncertified APRNs and updates titling with national standards.*

(1) Definitions.

(C) Advanced nursing education program—

1. Prior to July 1, 1998, completion of a formal post-basic educational program from or formally affiliated with an accredited college, university, or hospital of at least one (1) academic year, which includes advanced nursing theory and clinical nursing practice, leading to a graduate degree or certificate with a concentration in an advanced practice nursing clinical specialty area.

2. From and after July 1, 1998, completion of a graduate degree from an accredited college or university with a concentration in an advanced practice nursing clinical specialty area, which includes advanced nursing theory and clinical nursing practice. From and after January 1, 2009, the program shall provide a minimum of five hundred (500) faculty supervised clinical hours.

(F) Advanced practice nursing *[clinical specialty] role*—A *[R]*recognized advanced body of nursing knowledge and specialized acts of advanced professional nursing practice **categorized into one (1) of these four (4) roles: certified registered nurse anesthetist (CRNA), certified nurse-midwife (CNM), certified clinical nurse specialist (CNS) and certified nurse practitioner (CNP).**

(J) **Population focus**—Describes the type of patients that the **APRN has been educated to provide care for, i.e. family/individual across the lifespan, adult-gerontology, pediatrics, neonatal, women’s health/gender-related or psych/mental health.**

*[(J)](K)* Preceptorial experience—A designated portion of a formal educational program that is offered in a healthcare setting and affords students the opportunity to integrate theory and role in both the clinical specialty/practice area and advanced nursing practice through direct patient care/client management.

*[(K)](L)* Qualified preceptor—An APRN with a current unrestricted RN license who has a scope of practice which includes prescribing and has met the requirements for prescriptive authority; a licensed practitioner of medicine or osteopathy with unrestricted prescriptive authority.

(2) To Obtain APRN Recognition.

(A) After June 30, 1997, the MSBN *[shall] will* maintain an up-to-date roster of RNs recognized as eligible to practice as an APRN, *which shall be available to the public. A copy of the current roster can be obtained by contacting the MSBN.*

1. Temporary recognition—available to new graduate APRNs only—An RN who is a graduate registered nurse anesthetist, graduate nurse midwife, graduate nurse practitioner, or graduate clinical nurse specialist and desires to begin practice in their advanced practice role prior to the successful completion of their certification examination must be recognized by the MSBN and *[shall satisfy the following:]*—

A. Hold a current unencumbered license to practice in Missouri, or another compact state as an RN;

B. Submit completed Document of Recognition application and fee to the MSBN. Incomplete application forms and evidence will be considered invalid. Fees are not refundable;

C. Provide evidence of having successfully completed an advanced nursing education program as defined in subsection (1)(B) of this rule;

D. Register to take the first available certification examination administered by a nationally recognized certifying body acceptable to the MSBN;

E. Agree to notify the MSBN and employer of results within five (5) working days of receipt of results. If notification is of unsuccessful results, then agree to cease practice as an APRN immediately;

F. Be restricted from any prescriptive authority;

G. Have never been denied certification or had any certification suspended, revoked, or cancelled by an MSBN-approved nationally-recognized certifying body; and

H. *[Shall b/Be]* recognized for a period not greater than four (4) months from the date of graduation, pending a certification decision by an MSBN-approved nationally recognized certifying body.

(B) Initial Recognition—RNs who are certified registered nurse anesthetists (CRNA), certified nurse midwives (CNM), certified nurse practitioners, or certified clinical nurse specialists (CNS) applying for recognition from the MSBN for eligibility to practice as advanced practice registered nurses shall—

1. Hold a current unencumbered license to practice in Missouri or another compact state as an RN; and

2. Provide evidence of completion of appropriate advanced nursing education program as defined in subsection (1)(C) of this rule; and

3. Submit completed Document of Recognition application and appropriate fee to the MSBN. Incomplete application forms and evidence will be considered invalid. Fees are not refundable; and

4. Submit documentation of current certification in their respective advanced **practice nursing [clinical specialty area] population focus area of practice** by an MSBN-approved nationally-recognized certifying body, meeting the requirements of this rule; or

5. Before January 1, 2010, applicants for whom there is no appropriate certifying examination shall also provide the following documentation:

A. Evidence of successful completion of three (3) graduate credit hours of pharmacology offered by an accredited college or university within the previous five (5) years prior to the date of application to the board; and

B. Evidence of a minimum of eight hundred (800) hours of clinical practice in the advanced practice nursing clinical specialty area within two (2) years prior to date of application to the board; and

6. Each applicant is responsible for maintaining and providing documentation of satisfactory, active, up-to-date certification/recertification/maintenance and/or continuing education/competency status to the MSBN.

7. To be eligible for controlled substance prescriptive authority, the APRN applicant *[must]* **shall submit the following:**

A. *[Submit e]* Evidence of completion of an advanced pharmacology course that *[shall]* include preceptorial experience in the prescription of drugs, medicines, and therapeutic devices with a qualified preceptor. Evidence shall be submitted in the form of one (1) of the following:

(I) An official final transcript from their advanced practice program; or

(II) A letter from the school describing how this was integrated into the curriculum; or

(III) Evidence of successful completion of three (3) credit hours post-baccalaureate course in advanced pharmacology from an accredited college or university within the last five (5) years; or

(IV) Evidence of successful completion of forty-five (45) continuing education units in pharmacology within the last five (5) years; and

B. Provide evidence of completion of at least three hundred (300) clock hours of preceptorial experience in the prescription of drugs, medicines, and therapeutic devices with a qualified preceptor. The APRN applicant shall complete the form provided by the MSBN and include this form with the Document of Recognition application or at such time as the APRN has completed the required hours of preceptorial experience; *[and]*

C. Has had controlled substance prescriptive authority delegated in a collaborative practice arrangement under section 334.104, RSMo, with a Missouri licensed physician who has an unrestricted federal Drug Enforcement Administration (DEA) number and who is actively engaged in a practice comparable in scope, specialty, or expertise to that of the APRN. Submit the completed "Statement of Controlled Substance Delegation" form provided by the MSBN as part of the application process to the MSBN.; and

D. Provide evidence of a minimum of one thousand (1,000) hours of practice in an advanced practice nursing category prior to application for a certificate of prescriptive authority. The one thousand (1,000) hours shall—

(I) Be obtained after graduation from the advanced practice nursing education program; and

(II) Include transmitting a prescription order orally, telephonically, or to an inpatient medical record from protocols developed in collaboration with and signed by a licensed physician. The APRN applicant shall complete the form provided by the MSBN and may include this form with the Document of Recognition application or at such time as the APRN has completed the required hours of practice in an advanced practice nursing category.

8. Once the APRN has received controlled substance prescriptive authority from the MSBN, he/she may apply for a BNDD registration number and a federal DEA registration number. Restrictions that may

exist on the collaborative physician's BNDD registration may also result in restrictions on the BNDD registration for the APRN. The instructions and the application needed for BNDD registration can be found at [www.dhss.mo.gov/BNDD](http://www.dhss.mo.gov/BNDD). For information regarding federal DEA registration, see [www.DEADiversion.usdoj.gov](http://www.DEADiversion.usdoj.gov).

(C) Continued Recognition for Certified APRNs—In order to maintain a current Document of Recognition, the APRN shall—

1. Maintain current RN licensure in Missouri or in another compact state. An RN license placed on inactive or lapsed status will automatically *[lapse]* **expire** the Document of Recognition regardless of current certification status; and

2. *[APRNs shall n]* Notify the MSBN within five (5) working days of any change in status, documentation, or other changes that may affect their recognition as an APRN; and

3. Provide evidence of recertification by a certifying body, approved by the MSBN, to the MSBN prior to the current expiration date. It is the APRN's responsibility to be sure that their recertification credentials have been received by the MSBN; *[or]* **and**

4. **Adhere to all requirements of the BNDD and the federal DEA.**

5. **Failure to satisfy any of the applicable requirements of subsections (2)(A)–(C) of this rule shall result in the loss of recognition as an APRN in Missouri. Loss of recognition as an APRN results in ineligibility to call or title oneself or practice as an APRN but does not prevent the individual from practicing as an RN within his/her education, training, knowledge, judgment, skill, and competence as long as otherwise licensed to practice as an RN.**

(D) Continued Recognition for Uncertified APRNs - In order to maintain a current Document of Recognition, the uncertified APRN shall—

*[4.]1. [If]* Have been approved by the MSBN as noncertified prior to January 1, 2010, **and every two (2) years [shall] thereafter** provide evidence of—

A. A minimum of eight hundred (800) hours of clinical practice in their advanced practice nursing *[clinical specialty] population focus area* and in the advanced practice role; and

B. A minimum of sixty (60) contact hours in their advanced practice nursing *[clinical specialty area offered by an accredited college or university; and]* **population focus area of practice. Formally approved continuing education hours shall meet one (1) or more of the criteria listed below:**

(I) **Continuing nursing education (CNE) approved for nursing contact hours by an accredited provider or approver of nursing continuing education;**

(II) **Continuing medical education (CME) approved for CME hours;**

(III) **Sponsored by organizations, agencies, or educational institutions accredited or approved by the American Nurses Credentialing Center (ANCC), the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), or the Commission on Dietetic Registration;**

(IV) **Provided by one (1) of these accepted agencies: American Nurses Association American Academy of Family Physicians (AAFP) American Academy of Physician Assistants (AAPA) American Association of Nurse Practitioners (AANP) American College of Nurse-Midwives (ACNM) American Psychiatric Association (APA) American Psychological Association (APA) American Psychiatric Nurses Association (APNA) Emergency Nurses Association (ENA) National Association of Nurse Practitioners in Women's Health (NPWH) National Association of Pediatric Nurse Associates and Practitioners (NAP-NAP);**

(V) **Independent study and/or e-learning approved for continuing education hours by one (1) of the accepted continuing education providers may be used for one hundred percent (100%) of the required continuing education hours (e.g. independent**

study programs, online courses, articles from professional journals); and

2. Maintain current RN licensure in Missouri or in another compact state. An RN license placed on inactive or lapsed status will automatically expire the Document of Recognition regardless of current certification status; and

3. Notify the MSBN within five (5) working days of any change in status, documentation, or other changes that may affect their recognition as an APRN; and

[5.]4. Adhere to all requirements of the BNDD and the federal DEA; and

[6.]5. **Uncertified APRNs who fail to satisfy any of the applicable requirements of subsections (2)(A)–(C)], (B), and (D) of this rule [shall lose their recognition] will no longer be recognized as an APRN in Missouri.** Loss of recognition as an APRN results in ineligibility to call or title oneself or practice as an APRN but does not prevent the individual from practicing as an RN within his/her education, training, knowledge, judgment, skill, and competence **if the RN has an active license to practice as an RN.** [To regain recognition as an APRN, the individual must complete the application process described in paragraphs (2)(B)1.–8. of this rule.]

6. **Uncertified APRNs who fail to satisfy any of the applicable requirements of subsections (2)(A), (B), and (D) of this rule will no longer be recognized as an APRN in Missouri. To regain recognition, the uncertified APRN shall complete the application process described in paragraphs (2)(B)1.–8. of this rule, which includes the requirement for certification.**

(3) Titling.

(A) After June 30, 1997, only an RN meeting the requirements of this rule and recognized by the MSBN as an APRN [shall have the right to] **may** use any of the following titles or [their] abbreviations in clinical practice: advanced practice registered nurse (APRN); certified advanced practice registered nurse; nurse anesthetist; certified registered nurse anesthetist (CRNA); nurse midwife; certified nurse midwife (CNM); nurse practitioner (NP); certified nurse practitioner; certified nurse specialist (CNS); or certified clinical nurse specialist.

(B) [RNs] **A Registered Nurse (RN) recognized as an APRN [nurses] by the MSBN shall [specify their RN] use the title APRN and [clinical nursing specialty area designation,] may include their role and population focus (NP with population focus, CNS with population focus, CNM, or CRNA), and [may include] certification status, if applicable, for purposes of identification and documentation.**

(4) Scope of Practice.

(A) RNs recognized by the MSBN as being eligible to practice as an APRN shall function clinically—

1. Within the state of Missouri Nursing Practice Act, Chapter 335, RSMo, and all other applicable rules and regulations;

2. Within the professional scope and standards of their advanced practice nursing [clinical specialty area] **role and population focus** and consistent with their formal advanced nursing education and national certification, if applicable, or within their education, training, knowledge, judgment, skill, and competence as an RN; and

3. Within the regulations set forth by the BNDD and the federal DEA if deemed eligible to prescribe controlled substances by the MSBN.

(5) Certifying Body Criteria.

(C) The MSBN [shall] **will** identify, keep on file, and make available to the public the current list of nationally-recognized certifying bodies acceptable to the board of nursing. Nationally-recognized certifying bodies may be added or deleted from the board of nursing's list of nationally-recognized certifying bodies based on the criteria set forth in this rule. A copy of the current list [can] **may** be obtained by

contacting the Missouri State Board of Nursing, PO Box 656, Jefferson City, MO 65102, by calling (573) 751-0681, or on the website at [www.pr.mo.gov/nursing.asp](http://www.pr.mo.gov/nursing.asp)].

*AUTHORITY: sections 335.016(2) and 335.036, RSMo [Supp. 2009] 2016. This rule originally filed as 4 CSR 200-4.100. Original rule filed Nov. 15, 1991, effective March 9, 1992. For intervening history, please consult the Code of State Regulations. Amended: Filed June 22, 2018.*

*PUBLIC COST: This proposed amendment will not cost state agencies or political subdivisions more than five hundred dollars (\$500) in the aggregate.*

*PRIVATE COST: This proposed amendment will not cost private entities more than five hundred dollars (\$500) in the aggregate.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed amendment with the State Board of Nursing, Lori Scheidt, Executive Director, PO Box 656, Jefferson City, MO 65102, by fax at (573) 751-0075, or via email at [nursing@pr.mo.gov](mailto:nursing@pr.mo.gov). To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**T**his section will contain the final text of the rules proposed by agencies. The order of rulemaking is required to contain a citation to the legal authority upon which the order of rulemaking is based; reference to the date and page or pages where the notice of proposed rulemaking was published in the *Missouri Register*; an explanation of any change between the text of the rule as contained in the notice of proposed rulemaking and the text of the rule as finally adopted, together with the reason for any such change; and the full text of any section or subsection of the rule as adopted which has been changed from that contained in the notice of proposed rulemaking. The effective date of the rule shall be not less than thirty (30) days after the date of publication of the revision to the *Code of State Regulations*.

**T**he agency is also required to make a brief summary of the general nature and extent of comments submitted in support of or opposition to the proposed rule and a concise summary of the testimony presented at the hearing, if any, held in connection with the rulemaking, together with a concise summary of the agency's findings with respect to the merits of any such testimony or comments which are opposed in whole or in part to the proposed rule. The ninety-(90-) day period during which an agency shall file its Order of Rulemaking for publication in the *Missouri Register* begins either: 1) after the hearing on the Proposed Rulemaking is held; or 2) at the end of the time for submission of comments to the agency. During this period, the agency shall file with the secretary of state the order of rulemaking, either putting the proposed rule into effect, with or without further changes, or withdrawing the proposed rule.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 10—Market Development  
Chapter 2—Subscription Fees**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Department of Agriculture under section 261.020, RSMo 2016, the director rescinds a rule as follows:

**2 CSR 10-2.010** Subscription Fees for the “Weekly Market News Summary” **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 2, 2018 (43 MoReg 666). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 10—Market Development  
Chapter 3—Usage Fees**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Department of Agriculture under section 261.020, RSMo 2016, the director rescinds a rule as follows:

**2 CSR 10-3.010** Usage Fees for the KCI Multipurpose Export Facility **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 2, 2018 (43 MoReg 666). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 10—Market Development  
Chapter 4—AgriMissouri Matching Fund Program**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Department of Agriculture under section 261.020, RSMo 2016, the director rescinds a rule as follows:

**2 CSR 10-4.010** Guidelines for the AgriMissouri Matching Fund Program **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 2, 2018 (43 MoReg 666-667). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 10—Market Development  
Chapter 5—Price Reporting**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Department of Agriculture under sections 277.200-277.215, RSMo Repealed in 2007, SB613, the director rescinds a rule as follows:

**2 CSR 10-5.010** Price Reporting Requirements for Livestock Purchases by Packers **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 2, 2018 (43 MoReg 667). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 10—Market Development  
Chapter 5—Price Reporting**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Department of Agriculture under sections 277.200-277.215, RSMo Repealed in 2007, SB613, the director rescinds a rule as follows:

**2 CSR 10-5.015 Public Complaint Handling and Disposition Procedure for Missouri Livestock Marketing Law is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 2, 2018 (43 MoReg 667). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 2—Air Quality Standards and Air Pollution  
Control Rules Specific to the Kansas City Metropolitan  
Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-2.310 Control of Emissions From the Application of Automotive Underbody Deadeners is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 262). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received five (5) comments on this rulemaking from the U.S. Environmental Protection Agency (EPA).

Due to the following five (5) comments all regarding suggestions for addressing antibacksliding, one (1) response can be found at the end of these five (5) comments.

COMMENT #1: EPA commented that the rule does not specifically say if it would or would not apply to a new or modified applicator of underbody deadener with potential emissions of Volatile Organic Compounds (VOCs) greater than one-hundred (100) tpy upon start-up.

COMMENT #2: EPA commented that a potential way for the department to demonstrate that this State Implementation Plan (SIP) revision would not interfere with attainment of the National Ambient Air Quality Standards might be to provide an explanation of how its SIP-approved Prevention of Significant Deterioration (PSD) program would ensure that the start-up of a new source or modification of an existing source would be controlled in at least an equivalent manner as would be required by this rescinded rule.

COMMENT #3: EPA commented that if in the event the start-up of a new source or modification to an existing source would not be applicable under PSD but would otherwise be an applicable source under this rescinded rule, the department should provide a demonstration of the potential emissions from such sources and make a determination about their potential impact on air quality.

COMMENT #4: EPA commented that the department could supplement this demonstration by providing information on why it believes no new or modified source will start-up (i.e., are underbody deadeners no longer sprayed onto vehicles? If still spray applied, do they no longer have VOCs?).

COMMENT #5: EPA noted that Maximum Available Control Technology (MACT) Subpart IIII for Surface Coating of Automobiles

and Light-Duty Trucks has provisions for underbody anti-chip coatings and deadeners which may provide a backstop. The department could demonstrate that the associated limits on hazardous air pollutants (HAPs) also limit VOCs. The department may want to evaluate further to see if this MACT rule could address the proposed rescission of this Reasonably Available Control Technology (RACT) rule. RESPONSE: The program's State Implementation Plan submission will provide discussion to support this rescission. No changes were made to this rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 2—Air Quality Standards and Air Pollution  
Control Rules Specific to the Kansas City Metropolitan  
Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-2.360 Control of Emissions From Bakery Ovens is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 262). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received four (4) comments on this rulemaking from the U.S. Environmental Protection Agency (EPA).

Due to the similarity of the following four (4) comments, one (1) response can be found at the end of these four (4) comments.

COMMENT #1: EPA commented that the Rulemaking Report indicates that this rule only applied to one (1) source up promulgation, the Wonder Bread facility, and that source is no longer active. However, the rule does not name a specific facility. Furthermore, the rule applies to all installations which have the uncontrolled potential to emit (PTE) more than one-hundred (100) tons per year (tpy) or two-hundred fifty (250) kg per day of volatile organic compounds (VOCs), and that the rule shall apply to new or modified commercial bakeries whose potential emissions of VOCs are greater than one-hundred (100) tpy upon start-up. Since the rule language indicates that any commercial bakery oven source greater than one hundred (100) tpy of VOCs are subject to this rule and the Rulemaking Report only names the existing source at the time of the rule, the department should clearly state that no other sources were subject to this rule at any time and thus all potential emissions impact from affected facilities have been taken into consideration.

COMMENT #2: EPA commented that a potential way for the department to demonstrate that this State Implementation Plan (SIP) revision would not interfere with attainment of the National Ambient Air Quality Standards (NAAQS) might be to provide an explanation of how its SIP-approved Prevention of Significant Deterioration (PSD) program would ensure that the start-up of a new source or modification of an existing source would be controlled in at least an equivalent manner as would be required by this rescinded rule.

COMMENT #3: EPA commented that if in the event the start-up of a new source or modification to an existing source would not be applicable under PSD but would otherwise be an applicable source under this rescinded rule, the department should provide a demonstration of the

potential emissions from such sources and make a determination about their potential impact on air quality.

COMMENT #4: EPA commented that the department could supplement this demonstration by providing information on why it believes no new or modified source will start-up (i.e., Is there new technology such that commercial bakery ovens no longer emit VOC levels that would trigger this rule?).

RESPONSE: The program's State Implementation Plan submission will provide discussion to support this rescission. No changes were made to this rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES**  
**Division 10—Air Conservation Commission**  
**Chapter 3—Air Pollution Control Rules Specific to the**  
**Outstate Missouri Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-3.160** Restriction of Emission of Fluorides From Diammonium Phosphate Fertilizer Production is rescinded.

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 262-263). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received a total of one (1) comment from one (1) source: The U.S. Environmental Protection Agency (EPA).

COMMENT #1: EPA commented that this rule is approved into the state's Clean Air Act (CAA) 111(d) plan and as such is not subject to the anti-backsliding requirements of CAA 110(l) and 193. However, the Rulemaking Report does not specify how the removal of this rule would or would not impact its 111(d) plan. We recommend some description of how the rescission of this rule would not hamper the state's ability to implement or reduce the effectiveness of the state's 111(d) plan.

RESPONSE: The program's plan submission will include the negative declaration previously approved for this rescission. No changes were made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES**  
**Division 10—Air Conservation Commission**  
**Chapter 5—Air Quality Standards and Air Pollution**  
**Control Rules Specific to the St. Louis Metropolitan Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-5.120** Information on Sales of Fuels to be Provided and Maintained is rescinded.

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 263). No changes were made in the proposed rescission, so

it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received a total of one (1) comment from one (1) source: The U.S. Environmental Protection Agency (EPA).

COMMENT #1: EPA commented that the Rulemaking Report indicates that this rule is obsolete due to other federal and state regulations that control emissions rather than fuels. In addition, the intent of the rule is focused on record keeping and tracking of fuel oil sales and ash content of coal sales. The EPA recognizes that this rule does not control emissions; however, the department could provide information regarding the specific federal and state rules as referenced in the Rulemaking Report that have replaced the need for this rule and indicate that there are record keeping requirements as part of those rules.

RESPONSE: The program's State Implementation Plan submission will provide discussion to support the information provided in the Rulemaking Report. No changes were made to this rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES**  
**Division 10—Air Conservation Commission**  
**Chapter 5—Air Quality Standards and Air Pollution**  
**Control Rules Specific to the St. Louis Metropolitan Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-5.130** Certain Coals to be Washed is rescinded.

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 263-264). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received two (2) comments from one (1) source: The U.S. Environmental Protection Agency (EPA).

Due to the following two (2) comments all regarding suggestions for supporting why the rescission does not impact the stringency of the State Implementation Plan, one (1) response can be found at the end of these two (2) comments.

COMMENT #1: EPA commented that the Rulemaking Report indicates that this rule is obsolete because provisions of three (3) other rules taken together (10 CSR 10-6.261 Control of Sulfur Dioxide Emissions; 10 CSR 10-5.570 Control of Sulfur Emissions From Stationary Boilers; and 10 CSR 10-6.405 Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating) effectively limit the Sulfur Dioxide (SO<sub>2</sub>) and particulate matter (PM) emissions from coal-burning sources statewide. We recommend that the department demonstrate how these state rules limit SO<sub>2</sub> and PM emissions in an equivalent or greater manner than the rule being rescinded. If in the event an applicability coverage gap exists the department should describe the gap between sources that were covered under 10 CSR 10-5.130 and the sources that are subject to the current rules which the state is relying upon, and describe how these sources, such as minor sources would be controlled, or that the

potential emissions from these sources uncontrolled would have a negligible impact on air quality overall. EPA notes that 10 CSR 10-6.261 is not State Implementation Plan (SIP) approved.

COMMENT #2: EPA commented that if applicable, the department could describe whether there are any federal or other requirements that limit the ash content of coal such that the rescission of this rule would not impact the stringency of the SIP.

RESPONSE: The program's SIP submission will provide discussion to support that the rescission of the rule will not impact the stringency of the SIP. No changes were made to this rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 5—Air Quality Standards and Air Pollution  
Control Rules Specific to the St. Louis Metropolitan Area**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-5.450 Control of VOC Emissions from Traffic Coatings is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 264). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program received two (2) comments from two (2) sources: The Boeing Company and the U.S. Environmental Protection Agency (EPA).

COMMENT #1: The Boeing Company spoke in favor of the rule rescission. Since the federal rule became effective in 1998, Boeing is now confident that any paving contractor that Boeing uses cannot buy noncompliant coating anymore. The elimination of the state rule will unclutter our Title V permit compliance certification.

RESPONSE: The program appreciates Boeing's support of the rescission. No change was made to the rule as a result of this comment.

COMMENT #2: The EPA provided suggestions and comments to help ensure that any State Implementation Plan submission meets the requirements of Section 110(l) and 193 of the Clean Air Act. EPA commented that while the one hundred fifty (150) gram limit on the volatile organic compound content of manufactured traffic coating is identical for the federal rule 40 CFR Part 59, Subpart D and the proposed rule rescission, that the Missouri Department of Natural Resources should also compare the applicability, the labeling requirements, and test method requirements of the rules.

RESPONSE: The program performed a review and comparison of the state rule and federal rule prior to proposing the rule rescission and found that the rules were nearly identical. The program's State Implementation Plan submission will provide discussion to support that any differences between the two (2) rules would not interfere with the attainment of the National Ambient Air Quality Standards, Rate of Progress, Reasonable Further Progress, or any other applicable requirement of the Clean Air Act. No change was made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 6—Air Quality Standards, Definitions, Sampling  
and Reference Methods and Air Pollution Control  
Regulations for the Entire State of Missouri**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-6.100 Alternate Emission Limits is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 264). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received one (1) comment on this rulemaking from the U.S. Environmental Protection Agency (EPA).

COMMENT #1: EPA commented that this rule was not approved into the Missouri State Implementation Plan and they do not see any issue with its rescission.

RESPONSE: The program appreciates the comment provided by EPA.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 6—Air Quality Standards, Definitions, Sampling  
and Reference Methods and Air Pollution Control  
Regulations for the Entire State of Missouri**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-6.350 Emission Limitations and Emissions Trading of Oxides of Nitrogen is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 265). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received one (1) comment on this rulemaking from the U.S. Environmental Protection Agency (EPA).

COMMENT #1: EPA commented that the State Implementation Plan revision submission for this rescission should discuss how these rules were relied upon in the Department's maintenance plan for the 1997 annual fine particulate matter standards (PM<sub>2.5</sub>) and any potential impact of rescinding the rules on that plan.

RESPONSE: The program's State Implementation Plan submission will provide discussion on how this rule was relied upon in the maintenance plan for the 1997 PM<sub>2.5</sub> standard and the potential effect of rescinding this rule. No change was made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 10—Air Conservation Commission  
Chapter 6—Air Quality Standards, Definitions, Sampling  
and Reference Methods and Air Pollution Control  
Regulations for the Entire State of Missouri**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 10-6.360 Control of NO<sub>x</sub> Emissions From Electric  
Generating Units and Non-Electric Generating Boilers  
is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 15, 2018 (43 MoReg 265). No changes were made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) received one (1) comment on this rulemaking from the U.S. Environmental Protection Agency (EPA).

**COMMENT#1:** EPA commented that the State Implementation Plan revision submission for this rescission should discuss how these rules were relied upon in the department's maintenance plan for the 1997 annual fine particulate matter standards (PM<sub>2.5</sub>) and any potential impact of rescinding the rules on that plan. In addition, the EPA suggests the department provide a short narrative regarding the status of the three (3) affected non-electric generating unit (EGU) sources of 10 CSR 10-6.360 that were not included in the applicability of the federal Cross-State Air Pollution Rule.

**RESPONSE:** The program's State Implementation Plan (SIP) submission will provide discussion on how this rule was relied upon in the maintenance plan for the 1997 PM<sub>2.5</sub> standard and the potential effect of rescinding this rule. The program's SIP submission will also provide the current status of the non-EGU sources that were subject to this rule when the Missouri SIP is amended. No change was made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 1—Organization**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission of the State of Missouri under sections 536.023(3) and 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-1.010 Organization and Powers is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 134). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, department staff explained the proposed rescission. No comments were made during

the public hearing. The department received one (1) comment from one (1) individual during the public comment period.

**PUBLIC COMMENTS:**

**COMMENT #1:** Robert Brundage, Newman, Comley and Ruth, P.C., commented on the rescission of 10 CSR 20-1.010. He opposed rescission of this rule, arguing that the rule should not be rescinded until the proposed replacement for the rule is proposed for promulgation in the same *Missouri Register* as a proposed rescission of 10 CSR 20-1.010. That way there is no gap in the regulation. Furthermore, he stated the public can then comment on whether the proposed department-wide organizational rule adequately replaces 10 CSR 20-1.010 and the other regulation proposed for rescission.

**RESPONSE:** The purpose of this rulemaking is to rescind this rule as it is to be replaced by a department-wide organizational rule to comply with section 536.023, RSMo. The replacement rule will be more department-specific including all the boards and commissions that support and facilitate the department's roles and responsibilities. This will allow for a more streamlined and efficient approach for a department-wide organization of powers. The proposed draft rule language for the Departmental Organization Rule will be 10 CSR 1-1.010; this rule is intended to replace individual program organizational rules which are being proposed for rescission. The rule language has been filed and was published in the April 2, 2018, *Missouri Register*. Any gap in time between the rescission and the effective date of the new organizational rule will have no practical effect on regulated entities. No changes were made as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 1—Organization**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission of the State of Missouri under sections 536.023(3) and 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-1.020 Clean Water Commission Appeals and Requests  
for Hearings is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 135). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, department staff explained the proposed rescission. No comments were made during the public hearing. The department received one (1) comment from one (1) individual during the public comment period.

**PUBLIC COMMENTS:**

**COMMENT #1:** Robert Brundage, Newman, Comley and Ruth, P.C., commented on the rescission of 10 CSR 20-1.020. He opposed rescission of this rule and stated the rule should be retained even though it is duplicative of statute regarding appeals and contested cases.

**RESPONSE:** Section 621.250, RSMo, and Chapter 536, RSMo, clearly define appeal procedures. The rule is duplicative of statute. No changes were made as a result of this comment.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.020 State Match Grant Program is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 135). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.021 State Construction Grant Program is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 135). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.022 Industrial Development Program is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 135-136). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission

becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.043 Hardship Grant Program is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 136). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.049 State Match to State Revolving Fund Loan Program is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 136). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section

644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.060 Storm Water Assistance Regulation is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 136-137). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 20—Clean Water Commission  
Chapter 4—Grants and Loans**

**ORDER OF RULEMAKING**

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 20-4.070 Sales Tax Exemption is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 137). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 14, 2018, and the public comment period ended March 21, 2018. At the public hearing, the department's financial assistance center staff explained the proposed rescission. No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 60—Safe Drinking Water Commission  
Chapter 1—Organization**

**ORDER OF RULEMAKING**

By the authority vested in the Safe Drinking Water Commission under section 640.100, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 60-1.010 Public Drinking Water Program—Description of Organization and Methods of Operation is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 139-140). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 20, 2018, and the public comment period ended March 28, 2018. At the public hearing, department staff explained the proposed rescission and no comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 60—Safe Drinking Water Commission  
Chapter 4—Contaminant Levels and Monitoring**

**ORDER OF RULEMAKING**

By the authority vested in the Safe Drinking Water Commission under section 640.100, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 60-4.020 Maximum Microbiological Contaminant Levels and Monitoring Requirements is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 140). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 20, 2018, and the public comment period ended March 28, 2018. At the public hearing, department staff explained the proposed rescission and no comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 60—Safe Drinking Water Commission  
Chapter 4—Contaminant Levels and Monitoring**

**ORDER OF RULEMAKING**

By the authority vested in the Safe Drinking Water Commission under section 640.100, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 60-4.092 Initial Distribution System Evaluation is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 140). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 20, 2018, and the public comment period ended March 28, 2018. At the public hearing, department staff explained the proposed rescission and no comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 60—Safe Drinking Water Commission  
Chapter 4—Contaminant Levels and Monitoring**

**ORDER OF RULEMAKING**

By the authority vested in the Safe Drinking Water Commission under section 640.100, RSMo 2016, the commission rescinds a rule as follows:

**10 CSR 60-4.110 Special Monitoring for Unregulated Chemicals is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on February 1, 2018 (43 MoReg 140). No changes have been made in the proposed rescission,

so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rescission was held March 20, 2018, and the public comment period ended March 28, 2018. At the public hearing, department staff explained the proposed rescission and no comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 2—Definitions**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance Fund Board of Trustees under section 319.129, RSMo 2016, the board amends a rule as follows:

10 CSR 100-2.010 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 534-535). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The board received one (1) comment on the proposed amendment, and its staff identified one (1) redundancy in the proposed amendment.

COMMENT #1: The Department of Natural Resources objected to the definition of “contaminated” or “contamination” and suggested no definition of those terms be added.

RESPONSE AND EXPLANATION OF CHANGE: The board is postponing the addition of a definition for these terms until a later date. This requires renumbering of definitions currently numbered (8) through (24).

COMMENT #2: Staff of the Petroleum Storage Tank Insurance Fund Board of Trustees observed the proposed new definition of “petroleum storage tank” or “tank” was redundant, since “tank” was already defined in the rule. The redundant language is being eliminated.

RESPONSE AND EXPLANATION OF CHANGE: The board concurs and has deleted the redundant words.

**10 CSR 100-2.010 Definitions**

(8) “Deductible” means that portion of a covered loss borne by a fund participant for each occurrence before the participant is entitled to recovery from the fund for that occurrence.

(9) “Emergency response” means immediate actions taken to contain a release or eliminate a serious hazard.

(10) “Fund” means the Petroleum Storage Tank Insurance Fund.

(11) “Fund beneficiary” means any person who takes responsibility for cleanup of one (1) or more releases from tanks taken out of use prior to December 31, 1997, and who qualifies to receive monies from the Petroleum Storage Tank Insurance Fund under section 319.131.9 or 319.131.10, RSMo.

(12) “Fund participant” means an owner or operator of a tank who has applied for and been accepted by the board as a person for whom the Petroleum Storage Tank Insurance Fund is serving as a financial responsibility mechanism under section 319.114, RSMo, or section

414.036, RSMo; or the owner of land upon which such a tank is located, if such person is named as an additional insured; or any other person named as an additional insured by the board.

(13) “In use” means the tank contains an accumulation of petroleum which is more than a *de minimus* amount; that is, the tank is not empty.

(14) “Marine terminal” means a large storage facility which receives product via barge or similar conveyance. It does not mean bulk storage facilities located near lakes or rivers, such as are used by petroleum distributors, and which typically receive product via truck.

(15) “Occurrence” means any sudden or nonsudden accidental release of petroleum from a tank that results in a covered loss.

(16) “Out of use” means the tank is empty—that is, it does not contain more than a *de minimus* amount of petroleum—and is no longer regularly being used to store petroleum.

(17) “Personal injury” means injury, other than bodily injury, arising out of one (1) or more of the following offenses:

- (A) False arrest, detention, imprisonment;
- (B) Malicious prosecution;
- (C) Wrongful entry into or eviction of a person from a room, dwelling, premises, or property that the person occupies; or
- (D) Invasion of right of private occupancy.

(18) “Petroleum storage tank” means:

- (A) An underground storage tank, as defined in section 319.100, RSMo, which is used to store petroleum; or
- (B) An aboveground storage tank, as defined in this rule.

(19) “Pipeline terminal” means a large storage facility which receives product via pipeline.

(20) “Property damage” means physical injury to or destruction of tangible property, excluding all resulting loss of use of that property. It does not include loss or damage of an intangible nature. Loss or damage of an intangible nature includes, but is not limited to, loss or interruption of business, pain and suffering, lost income, mental distress, loss of use of any benefit, and punitive damages.

(21) “Railroad corporation” means all corporations, companies or individuals now owning or operating, or which may hereafter own or operate, any railroad in this state.

(22) “Release” includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a petroleum storage tank into groundwater, surface water, or subsurface soils.

(23) “Site” means real property held under one (1) deed, except that in exceptional circumstances involving very large tracts of land, the board may, at its discretion, recognize separate portions of a large tract as separate tank sites.

(24) “Tank” means—

- (A) An underground storage tank, as defined in section 319.100, RSMo, which is used to store petroleum; or
- (B) An aboveground storage tank, as defined in this rule.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 4—Participation Requirements**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance

Fund Board of Trustees under sections 319.129, 319.131, and 319.133, RSMo 2016, the board amends a rule as follows:

10 CSR 100-4.010 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 535-540). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** The board received four (4) comments on the proposed amendment.

**COMMENT #1:** The Department of Natural Resources suggested the board's amended language allowing more flexibility in its review of leak detection records could affect the department's reliance on the board's review to meet the UST owner/operator's compliance obligations.

**RESPONSE AND EXPLANATION OF CHANGE:** The board's proposed amendment was intended to allow the board more flexibility to insure owners; it was not intended to change current practices. After discussion with the Department of Natural Resources, compromise language is being inserted in an effort to preserve the board's desired flexibility while alleviating the department's concern.

**COMMENT #2:** Don McNutt, President of Midwest Petroleum Company, opposed the board's proposal to increase the participation fee for underground tanks forty (40) years old or older.

**RESPONSE AND EXPLANATION OF CHANGE:** The board decided not to increase the fee.

**COMMENT #3:** Don McNutt, President of Midwest Petroleum Company, questioned why procedures were being changed when a landowner changes, but after receiving an explanation, indicated no opposition to the proposal.

**RESPONSE:** No change made.

**COMMENT #4:** The Department of Natural Resources opposed the amended language clarifying what contractual terms and conditions remain in effect when coverage for UST owners/operators is renewed.

**RESPONSE AND EXPLANATION OF CHANGE:** The board believes the proposed amendment makes the rule more explicit and internally consistent; however, it agrees that, as proposed, the language created unintended uncertainty as to whether the board was retaining its authority to amend its participation agreement. After discussion with the department, language to avoid this misunderstanding and clarify its intent is being added.

### **10 CSR 100-4.010 Participation Requirements for Underground Storage Tanks**

(2) Any owner or operator who wishes to participate in the fund shall so indicate by applying for coverage on a form specified by the board. An application shall—

(D) Include documentation as required by the board to demonstrate that the applicant has a reasonable assurance of the integrity of all USTs on the site which are in use. This documentation shall include:

1. Monthly leak detection records, except in the following cases:

A. For USTs installed before July 1, 2017, or compartments of such tanks, which are being put into use for the first time, current tank and line tightness tests shall be provided;

B. For UST systems being put back into use after being out of use, current tank and line tightness tests shall be provided; and

C. For operating UST systems being purchased by a new owner, current tank and line tightness tests shall be provided if at least two (2) current months' leak detection records are not available

from the prior owner;

2. Evidence that pressurized lines are equipped with line leak detectors which are in working order, unless the entire UST system is a double-wall system and monitoring devices are adequate to detect a leak;

3. Evidence that the cathodic protection system, if any, is functioning properly;

4. Evidence that the tank lining, if any, has been properly installed and inspected according to accepted industry practices;

5. Evidence that the UST is equipped with corrosion protection and spill/overflow prevention devices, as required in 10 CSR 26-2;

6. Line and/or tank tightness tests, as required in 10 CSR 26-2; and

7. Any other documentation as may reasonably be required by the board;

(3) Procedures Regarding Payment of Fees.

(A) Participation fees shall be paid by all applicants, as follows:

1. For double-walled USTs – one hundred dollars (\$100) per tank annually; and

2. For all other USTs – one hundred twenty-five dollars (\$125) per tank annually.

(6) In order to continue their participation in the fund, participants are required to renew their participation annually.

(D) Upon determination that the participant has met the requirements for continued participation in the fund, the board shall issue a new declarations page confirming that fact and specifying the effective date(s) of coverage. Other terms and conditions of such coverage contained in the participation agreement previously issued for that site shall remain in effect for the new coverage period unless the board amends the terms and conditions in writing.

*REVISED PUBLIC COST: The board's cost to modify its software will be less than the six thousand dollars (\$6,000) originally estimated, since no change is being made to its participation fees.*

*REVISED PRIVATE COST: Owners of USTs 40+ years old will not incur the increased costs estimated in the fiscal note submitted with the original proposal.*

**REVISED FISCAL NOTE  
PUBLIC COST**

- I. Department Title:** Department of Natural Resources  
**Division Title:** Petroleum Storage Tank Insurance Fund Board of Trustees  
**Chapter Title:** Participation Requirements

<b>Rule Number and Name:</b>	10 CSR 100-4.010 UST Participation Requirements
<b>Type of Rulemaking:</b>	Final Order of Rulemaking

**II. SUMMARY OF FISCAL IMPACT**

Affected Agency or Political Subdivision	Estimated Cost of Compliance in the Aggregate
Petroleum Storage Tank Insurance Fund Board of Trustees	\$1,000

**III. WORKSHEET**

Cost is a onetime expense to modify PSTIF Board of Trustees' software so endorsement can be issued when new tank is added to participation agreement.

**IV. ASSUMPTIONS**

IT contractor has committed to make these programming changes for these not-to-exceed costs.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 4—Participation Requirements**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance Fund Board of Trustees under sections 319.129, 319.131, and 319.133, RSMo 2016, the board amends a rule as follows:

10 CSR 100-4.020 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 541-544). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** The board received one (1) comment on the proposed amendment.

**COMMENT #1:** The Department of Natural Resources opposed the amended language clarifying what contractual terms and conditions remain in effect when coverage for UST owners/operators is renewed.

**RESPONSE AND EXPLANATION OF CHANGE:** The board believes the proposed amendment makes the rule more explicit and internally consistent; however, it agrees that, as proposed, the language created unintended uncertainty as to whether the board was retaining its authority to amend its participation agreement. After discussion with the department, language to avoid this misunderstanding and clarify its intent is being added.

**10 CSR 100-4.020 Participation Requirements for Aboveground Storage Tanks**

(6) In order to continue participation in the fund, participants are required to renew their participation annually.

(E) Upon determination that the participant has met the requirements for continued participation in the fund, the board shall issue a new declarations page confirming that fact and specifying the effective date(s) of coverage. Other terms and conditions of such coverage contained in the participation agreement previously issued for that site shall remain in effect for the new coverage period unless the board amends the terms and conditions in writing.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 5—Claims**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance Fund Board of Trustees under sections 319.129 and 319.131, RSMo 2016, the board amends a rule as follows:

**10 CSR 100-5.010 Claims for Cleanup Costs is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 545-546). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 5—Claims**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance Fund Board of Trustees under sections 319.129 and 319.131, RSMo 2016, the board amends a rule as follows:

**10 CSR 100-5.030 Third-Party Claims is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 546). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** No comments were received.

**Title 10—DEPARTMENT OF NATURAL RESOURCES  
Division 100—Petroleum Storage Tank Insurance Fund  
Board of Trustees  
Chapter 6—UST Operator Training**

**ORDER OF RULEMAKING**

By the authority vested in the Petroleum Storage Tank Insurance Fund Board of Trustees under section 319.130, RSMo 2016, the board amends a rule as follows:

**10 CSR 100-6.010 UST Operator Training is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on March 15, 2018 (43 MoReg 546). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** No comments were received.

**Title 11—DEPARTMENT OF PUBLIC SAFETY  
Division 75—Peace Officer Standards and Training  
Program  
Chapter 15—Continuing Education**

**ORDER OF RULEMAKING**

By the authority vested in the Department of Public Safety under sections 590.030.5(1), 590.050, and 590.190, RSMo 2016, the director amends a rule as follows:

**11 CSR 75-15.010 Continuing Education Requirement is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 775-776). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** No comments were received.

**Title 11—DEPARTMENT OF PUBLIC SAFETY  
Division 75—Peace Officer Standards and Training  
Program  
Chapter 15—Continuing Education**

**ORDER OF RULEMAKING**

By the authority vested in the Department of Public Safety under sections 590.030.5(1), 590.050, and 590.190, RSMo 2016, the director amends a rule as follows:

**11 CSR 75-15.020** Minimum Standards of Continuing Education Training **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 776-777). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 11—DEPARTMENT OF PUBLIC SAFETY  
Division 75—Peace Officer Standards and Training  
Program  
Chapter 15—Continuing Education**

**ORDER OF RULEMAKING**

By the authority vested in the Department of Public Safety under sections 590.030.5(1), 590.050, and 590.190, RSMo 2016, the director adopts a rule as follows:

**11 CSR 75-15.080** Failure to Obtain Continuing Education Training **is adopted.**

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on April 16, 2018 (43 MoReg 777-778). No changes have been made in the text of the proposed rule, so it is not reprinted here. This proposed rule becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2085—Board of Cosmetology and Barber  
Examiners  
Chapter 14—Violations and Hearings**

**ORDER OF RULEMAKING**

By the authority vested in the Board of Cosmetology and Barber Examiners under sections 328.150, 328.160, 329.025.1, 329.140, 329.250, and 329.255, RSMo 2016, the board rescinds a rule as follows:

**20 CSR 2085-14.010** Violations **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 16, 2018 (43 MoReg 780). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty

(30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2085—Board of Cosmetology and Barber  
Examiners  
Chapter 14—Violations and Hearings**

**ORDER OF RULEMAKING**

By the authority vested in the Board of Cosmetology and Barber Examiners under sections 329.025.7 and 621.045.1, RSMo 2016, the board rescinds a rule as follows:

**20 CSR 2085-14.020** Hearings and Review **is rescinded.**

A notice of proposed rulemaking containing the proposed rescission was published in the *Missouri Register* on April 16, 2018 (43 MoReg 780). No changes have been made in the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2245—Real Estate Appraisers  
Chapter 5—Fees**

**ORDER OF RULEMAKING**

By the authority vested in the Real Estate Appraisers Commission under sections 339.509, 339.513, and 339.525.4, RSMo 2016, the commission amends a rule as follows:

**20 CSR 2245-5.020** Application, Certificate and License Fees **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 780-783). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2255—Missouri Board for Respiratory Care  
Chapter 1—General Rules**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Board for Respiratory Care under sections 334.800, 334.830, 334.840, and 334.850, RSMo 2016, the board amends a rule as follows:

**20 CSR 2255-1.010** Board Information—General Organization **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 784). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2255—Missouri Board for Respiratory Care  
Chapter 1—General Rules**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Board for Respiratory Care under sections 334.800, 334.840, 334.850, and 610.010–610.200, RSMo 2016, the board amends a rule as follows:

**20 CSR 2255-1.020 Policy for Release of Public Records  
is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 784). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2255—Missouri Board for Respiratory Care  
Chapter 4—Continuing Education Requirements**

**ORDER OF RULEMAKING**

By the authority vested in the Missouri Board for Respiratory Care under sections 334.840, 334.850, and 334.880, RSMo 2016, the board amends a rule as follows:

**20 CSR 2255-4.010 Continuing Education Requirements  
is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 784–785). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 20—DEPARTMENT OF INSURANCE,  
FINANCIAL INSTITUTIONS AND PROFESSIONAL  
REGISTRATION  
Division 2267—Office of Tattooing, Body Piercing, and  
Branding  
Chapter 2—Licensing Requirements**

**ORDER OF RULEMAKING**

By the authority vested in the Office of Tattooing, Body Piercing, and Branding under section 324.522, RSMo 2016, the office amends a rule as follows:

**20 CSR 2267-2.020 Fees is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on April 16, 2018 (43 MoReg 785–787). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**T**his section may contain notice of hearings, correction notices, public information notices, rule action notices, statements of actual costs, and other items required to be published in the *Missouri Register* by law.

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 90—Weights, Measures and Consumer  
Protection**

**FISCAL YEAR JULY 1, 2018–JUNE 30, 2019  
BUDGET PLAN**

*PURPOSE: This proposed budget is filed in compliance with the provisions of section 323.025.10, RSMo 2016, which requires the Missouri Propane Safety Commission to prepare and submit a budget plan for public comment.*

**INCOME:**

Estimated Assessments*	\$528,750
Interest Income	\$ 3,000
<b>Total Income:</b>	
<b>\$531,750</b>	

**EXPENSES:**

Furnishings, Equipment, and Vehicle (Depreciation and Amortization)	\$ 19,300
Rent, Utility, and Communication Expenses	\$ 22,000
Professional and Contract Services	\$ 33,100
Operating Expenses	\$ 13,000
Personnel Expenses	\$280,000
Employee Benefits	\$ 66,500
Inspection and Meeting Expenses	\$ 58,500
Commissioner Expenses	\$ 7,500
Insurance Expenses	\$ 4,150
<b>Total Expenses:</b>	<b>\$504,050</b>

**NET** **\$ 27,700**

\*Assessment rates: 0.00225/gallon

*AUTHORITY: section 323.025.10, RSMo 2016.*

*NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed budget with the Missouri Propane Safety Commission, 4110 Country Club Drive, Suite 200, Jefferson City, MO 65109-0302. To be considered, comments must be received within thirty (30) days after publication of this notice in the Missouri Register. No public hearing is scheduled.*

**Title 2—DEPARTMENT OF AGRICULTURE  
Division 90—Weights, Measures and Consumer  
Protection**

**NON-SUBSTANTIVE CHANGE REQUEST**

The Missouri Department of Agriculture, Weights, Measures and Consumer Protection Division requests that the secretary of state make a non-substantive change to the following rule(s) in accordance with the provisions of section 536.032, RSMo. Division name change from Weights and Measures to Weights, Measures and Consumer Protection.

**Chapter 21—Weighing and Measuring Devices**

**2 CSR 90-21.060 National Type Evaluation Regulation**  
Changes in: Division Title and Section (1)

**Chapter 24—Collection of Inspection Fees**

**2 CSR 90-24.010 Collection of Inspection Fees**  
Changes in: Division Title

This change will appear in the August 31, 2018 update to the *Code of State Regulations*.

**Title 3—DEPARTMENT OF CONSERVATION  
Division 10—Conservation Commission  
Chapter 2—Missouri Managed Woods**

**STATEMENT OF ACTUAL COST**

**3 CSR 10-2.020 Forest Cropland**

The original estimated public cost for this rulemaking was published in the *Missouri Register* April 15, 2016 (41 MoReg 482–487). Even though the actual cost to state agencies and political subdivisions did not exceed the cost estimate by more than ten percent (10%), the estimated costs deviated from the actual costs sufficiently to warrant explanation for purposes of section 536.200.2, RSMo 2000. The estimated annual increase in cost to the Department of Conservation was four hundred eighty-seven thousand dollars (\$487,000) as payments to counties in-lieu of taxes for lands enrolled.

This was based upon anticipated enrollment of five hundred (500) acres per year. As of December 31, 2017, the department has enrolled only four hundred seventy-five (475) acres. It is anticipated that an additional two thousand five hundred (2,500) acres will be enrolled by December 31, 2018. This translates to an actual cost of four hundred seventy-five dollars (\$475) in FY19 to be paid to counties in-lieu of taxes and an estimated two thousand five hundred dollars (\$2,500) in FY20.

These low numbers are attributed to a soft role out of the program to ensure the program is managed correctly during these initial enrollments. A larger promotion is anticipated in the fall/winter of 2018/2019 to increase awareness and interest in the program.

It should also be noted that the total cost relates to a fully implemented program once it reaches a target enrollment of five hundred thousand (500,000) acres. It will take five (5) years or longer to enroll acreage to that level. Once reached, costs will remain consistently at five hundred thousand dollars (\$500,000) annually unless an increase in acreage enrollment is desired.