

Missouri Department of Natural Resources
Regulatory Impact Report
In Preparation For Proposing A Group of Amendments to Missouri's Technical Regulations for
Underground Storage Tanks in Title 10, Division 26 of the Code of State Regulations

Division/Program: Division of Environmental Quality – Hazardous Waste Program

Rule numbers:

10 CSR 26-2.010	Applicability
10 CSR 26-2.011	Interim Prohibition for Deferred Underground Storage Tank Systems
10 CSR 26-2.012	Definitions
10 CSR 26-2.013	UST Systems with Field-Constructed Tanks and Airport Hydrant Fuel Distribution Systems (New Rule)
10 CSR 26-2.019	New Installation Requirements
10 CSR 26-2.020	Performance Standards for New Underground Storage Tank Systems
10 CSR 26-2.021	Upgrading of Existing Underground Storage Tanks Systems
10 CSR 26-2.022	Notification Requirements
10 CSR 26-2.030	Spill and Overfill Control
10 CSR 26-2.031	Operation and Maintenance of Corrosion Protection
10 CSR 26-2.032	Compatibility
10 CSR 26-2.033	Repairs
10 CSR 26-2.034	Reporting and Record Keeping
10 CSR 26-2.035	Testing of Containment Sumps (New Rule)
10 CSR 26-2.036	Operation and Maintenance Walkthrough Inspections (New Rule)
10 CSR 26-2.040 Systems	General Requirements for Release Detection for All Underground Storage Tank
10 CSR 26-2.041	Requirements for Petroleum Underground Storage Tank Systems
10 CSR 26-2.042	Requirements for Hazardous Substance Underground Storage Tanks Systems
10 CSR 26-2.043	Methods of Release Detection for Tanks
10 CSR 26-2.044	Methods of Release Detection for Piping
10 CSR 26-2.045	Release Detection Record Keeping (Amendment – moves to 2.048)

10 CSR 26-2.046	Alternative Methods of Release Detection for Field-Constructed Tanks (New Rule)
10 CSR 26-2.047	Alternative Methods of Release Detection for Bulk Piping (New Rule)
10 CSR 26-2.050	Reporting of Suspected Releases
10 CSR 26-2.052	Release Investigation and Confirmation Steps
10 CSR 26-3.109	Release From the Requirements

Type of rule action: Five new rules (10 CSR 26-2.013, 2.035, 2.036, 2.046, and 2.047) and twenty one amendments to existing rules

Nature of the rulemaking: The U.S. Environmental Protection Agency (EPA) promulgated changes to the Underground Storage Tank (UST) Regulations (40 CFR 280 and 40 CFR 281). The regulations were published on July 15, 2015. The amendments include a requirement for regular site self-inspections, new testing requirements for spill and overfill prevention equipment, release detection equipment changes, including costly changes to the antiquated groundwater and vapor monitoring methods, and the regulation of UST’s previously deferred, such as field constructed (concrete) tanks, airport fueling hydrant systems, and potentially some oil/water separators. The regulations also detail the federal regulations for secondary containment (double-walled systems) and monitoring of these systems. This rulemaking will incorporate these new federal regulations into the state code.

In addition to incorporating the federal rule changes, the Hazardous Waste Program is proposing some state specific changes and updates to include new equipment, new industry standards, as well as to clarify the current regulations. Some of the changes are designed to help better ensure that old steel tanks, especially those in use beyond their warranty and “life expectancy,” are still appropriate for continued use.

Section 640.015.8 RSMo states that the requirement to prepare a Regulatory Impact Report (RIR) does not apply if the Department is adopting rules of the Environmental Protection Agency (EPA) without variance. Because the EPA has already adopted a federal rule that will go into effect if Missouri does not adopt these rules, a regulatory impact report is not required for many of the requirements of these rules.

For these rules, because an RIR is not required when adopting federal rules, they are not addressed in this RIR. Additionally, some of the proposed changes incorporate Missouri’s statutory definitions from Section 319.100, RSMo for clarification. Because these types of changes do not themselves prescribe new environmental conditions or standards, no RIR is required.

The rules covered by this RIR include proposed changes to 10 CSR 26-2.019, 2.020, 2.021, 2.030, 2.041 and 2.043. Information on the impacts of these proposed changes is included in this RIR.

Approval of the Completed Regulatory Impact Report

Program Director

Date

Missouri Department of Natural Resources
Regulatory Impact Report

In Preparation For Proposing A Group of Amendments and Additions to Title 10, Division 26 of the Code of State Regulations

Applicability: Pursuant to Section 640.015 RSMo, “all rulemakings that prescribe environmental conditions or standards promulgated by the Department of Natural Resources...shall... be based on the regulatory impact report...” This requirement shall not apply to emergency rulemakings pursuant to section 536.025 or to rules of other applicable federal agencies adopted by the Department “without variance.”

Determination: The Department has determined that portions of this rulemaking prescribe environmental conditions or standards, specifically 10 CSR 26-2.019, 2.020, 2.021, 2.030, 2.041, and 2.043. Accordingly, the Department has produced this Regulatory Impact Report (RIR) which will be made publicly available for comment for a period of at least 60 days. Upon completion of the comment period, official responses will be developed and made available on the agency web page prior to filing the proposed rulemaking with the Secretary of State. Contact information is at the end of this RIR.

1. Describe the environmental conditions or standards being prescribed.

The genesis of this rulemaking is that the Environmental Protection Agency (EPA) published new underground storage tank (UST) regulations on July 15, 2015, to meet the requirements of the 2005 Energy Policy Act UST requirements. The revisions strengthen the 1988 federal underground storage tank (UST) regulations by increasing emphasis on properly operating and maintaining UST equipment. The revisions will help prevent and detect UST releases, which are a leading source of groundwater contamination. The changes include:

- Adding secondary containment requirements for new and replaced tanks and piping
- Adding operator training requirements
- Adding periodic operation and maintenance requirements for UST systems
- Adding requirements to ensure UST system compatibility before storing certain biofuel blends
- Removing past deferrals for emergency generator tanks, airport hydrant systems, and field-constructed tanks
- Updating codes of practice
- Making editorial and technical corrections

While most of the proposed amendments and additions are a direct result of the federal regulation changes, which are being incorporated into the state UST regulations with no changes, the Department is also proposing to modify some of the federal regulations, and also to propose new changes to the state regulations as well.

Multiple rules include a modification of the federal rule, but the modifications are not addressed in this Regulatory Impact Report because the underlying requirement has already been established in the federal rule and the requirement itself does not change. Instead, the changes proposed either provide additional clarification on the intent or meaning of a specific portion of

the federal rule or in some cases the federal rule language is modified to establish a later date of implementation for a specific requirement than the date established in the federal rule. In either case, whether the state regulation provides additional clarification on the meaning or intent of the federal rule or establishes a later implementation date, the requirement is established in the federal rule and the state modifications do not change the substance of the requirement so the impact of the associated requirement is not addressed in this report.

The state-specific proposals include changes to the new installation regulations, clarification to the cathodic protection regulations pertaining to piping, proposing to sunset antiquated methods rather than incorporating the EPA's costly overhaul to the methods, organizational regulation changes, and rules for lined tanks that are an alternative to the language promulgated by the EPA. For these rule changes, some of the questions in this RIR include a rule-specific section that provides the requested information for individual rules. The additional information can be found under each question under the following rule titles and associated rule numbers:

- *New Installation Requirements – 10 CSR 26-2.019*
- *Performance Standards for New Underground Storage Tanks Systems – 10 CSR 26-2.020*
- *Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021*
- *Spill and Overfill Control – 10 CSR 26-2.030*
- *Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041*
- *Methods of Release Detection for Tanks – 10 CSR 26-2.043.*
- *Operation and Maintenance of Corrosion Protection – 10 CSR 26-2.031*
- *Definitions – 10 CSR 26-2.012.*

The information below provides a brief overview of the nature of each of these proposed state rule changes.

New Installation Requirements – 10 CSR 26-2.019

The Department has proposed a change that would reduce the notification time for the installation of UST systems from 30 days to 14 days, and require installation notifications for piping installations. The Department is also proposing to require new marinas to comply with the Petroleum Equipment Institute's Recommended Practice 1000-2009, Recommended Practices for the Installation of Marina Fueling Systems.

The Department is also adding an option for post-installation tightness testing. Currently the regulation only provides one option for testing the tank after installation, a tank tightness test. The proposed regulation will add a second option, testing the tank using the automatic tank gauge with the tank 95% full.

The final proposed change in this regulation is to require all new tanks be tied down at the time of installation.

Performance Standards for New Underground Storage Tanks Systems – 10 CSR 26-2.020

The Department is proposing a change that will prevent the installation of metal piping outside of a containment sump with the exception of replacement of flexible connectors.

The second proposed change in this rule is the deletion of an option to install a metal UST without the addition of cathodic protection if a corrosion expert can document that the site is not corrosive enough to damage the UST system.

Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021

The Department is proposing changes to old, lined tanks that are typically beyond their warranty and life-expectancy. These regulations are being changed to ensure that these tanks are being inspected and repaired in a way that confirms that they remain leak-free as long as they are operational. The EPA's UST regulation changes included modifications to the interior lining regulations. Specifically, their regulations require interior lined tanks be closed/replaced if the interior lining fails. The Department has proposed alternative requirements for interior linings, including:

- (1) Linings must meet the new UL 1856 installation standard,
- (2) Technicians must be certified (technicians must be certified to do work in almost every other aspect of UST service),
- (3) Documentation must include photographs,
- (4) An additional, less costly inspection option,
- (5) A new technology that allows repair of a lined tank that might otherwise, under the federal regulations, have to be closed.

Spill and Overfill Control – 10 CSR 26-2.030

The Department proposed a change that would limit temporary repairs to spill basins. Spill basins must be leak tight and prevent releases to the environment. To this end, spill basins must be maintained and repaired to continue to prevent releases.

Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041

The Department has proposed eliminating two antiquated release detection methods, groundwater and vapor monitoring. These leak detection methods function by detecting product in water or soil around the tank system up to 30 days after the leak occurs. These methods can be hindered by water, rainwater or low and high water tables, which are often a problem around Missouri. These methods can have false alarms any time there is a surface spill, nozzle leak or other incident. The alternative methods of leak detection available are more precise, more accurate, less prone to failure, often quicker to provide an alarm to the owner and, therefore, more protective of the environment.

Methods of Release Detection for Tanks – 10 CSR 26-2.043.

The Department has proposed a single state-specific change within this rule. The change would require new interstitial monitoring systems installed after July 1, 2017 (double-walled systems required by 10 CSR 26-2.020 or 10 CSR 26-2.021, and interstitial monitoring required by 10 CSR 26-2.041) to be monitored electronically and with a system equipped with a report-generating capability.

Operation and Maintenance of Corrosion Protection – 10 CSR 26-2.031

The only state-specific change in this rule is a clarification. In 2011, the rule was amended to include requirements for cathodically protected UST systems, including piping, which remain unprotected for more than 90 days. As that language did not clearly address piping, the proposed rule will specifically outline the requirement for piping. The Department does not consider this a change though, simply a clarification. The remaining rule modifications include only changes that are designed to incorporate the new federal EPA regulation changes. As these changes include provisions from already existing Missouri statutes and the EPA federal regulations, as explained above, we do not believe an RIR is required for this proposed regulation.

Definitions – 10 CSR 26-2.012.

The definition regulation changes include the addition of Missouri statutory definitions to the rule, as well as adding federal definitions to include the updates in the 2015 EPA regulation changes. The definition changes also include the addition of many definitions from the federal regulations that were previously incorporated by reference. Although these federal definitions were not amended by the 2015 EPA rule change, the proposed amendment will add these regulations to the state rule so that all applicable definitions can be found in one place. The Department wanted to create a “Definition” rule that would include the previously “incorporated by reference” definitions, statutory definitions, as well as the new EPA changes. To provide clarity, though, some of the federal definitions have been edited with language that was added to the operational rules in 2011. Some of the statutory definitions were enhanced with federal definition language, for consistency and clarity. We did not change the content or intent of the definitions included in this rule.

Other changes for which an RIR is not required

For the rules listed below, the proposed changes are intended only to incorporate the new federal EPA regulation changes, with references to existing Missouri statutory definitions where needed. Because these changes include existing federal regulations and Missouri statutes, the department determined that an RIR is not required. However the rules are listed below for reference related to this rulemaking:

Applicability – 10 CSR 26-2.010.

Interim Prohibition for Deferred Underground Storage Tank Systems – 10 CSR 26-2.011

UST Systems with Field-Constructed Tanks and Airport Hydrant Fuel Distribution Systems – 10 CSR 26-2.013

Notification Requirements – 10 CSR 26-2.022

Compatibility – 10 CSR 26-2.032

Repairs – 10 CSR 26-2.033

Reporting and Record Keeping – 10 CSR 26-2.034

Testing of Containment Sumps – 10 CSR 26-2.035

Operation and Maintenance Walkthrough Inspections – 10 CSR 26-2.036

General Requirements for Release Detection for All Underground Storage Tank Systems – 10 CSR 26-2.040

Requirements for Hazardous Substance Underground Storage Tanks Systems – 10 CSR 26-2.042

Methods of Release Detection for Piping – 10 CSR 26-2.044
Release Detection Record Keeping – 10 CSR 26-2.045 (moves to .048)
Alternative Methods of Release Detection for Field-Constructed Tanks – 10 CSR 26-2.046
Alternative Methods of Release Detection for Bulk Piping – 10 CSR 26-2.047
Reporting of Suspected Releases – 10 CSR 26-2.050
Release Investigation and Confirmation Steps – 10 CSR 26-2.052
Release From the Requirements – 10 CSR 26-3.109

2. A report on the peer-reviewed scientific data used to commence the rulemaking process.

There is no peer-reviewed scientific data available on the issues addressed in this proposed rulemaking. The primary effect of this group of proposed amendments and additions is to update the state regulations for underground storage tanks to incorporate the recently promulgated federal regulations on which they are based. In the UST program, states may obtain “State Program Approval” (SPA) which means that, once the EPA grants SPA, the state UST rules are the only UST rules effective in the state, not the federal UST rules. Owners and operators need not comply with two different sets of potentially overlapping UST regulations. To obtain SPA, however, states must demonstrate that their UST rules are equitable to the federal UST regulations. Federal regulations are adopted after a lengthy process that involves an evaluation of relevant scientific data, so to the extent that the state regulations are moving closer to the federal regulations on these topics, this proposed rulemaking is based in part on the analysis underlying the adoption of the applicable federal rules.

For those portions of the rulemaking that are not directed at making state regulations mirror federal regulations, the Department’s proposal is based upon a number of sound considerations including identification of environmental problems, issues that require resolution under the regulations, issues that require more clearly defined action, environmental concerns that include oversight that is costly to the state, and last, but by no means least, all of these proposals were discussed at length with stakeholders for review, assessment and input.

3. A description of the persons who will most likely be affected by the proposed rule, including persons that will bear the costs of the proposed rule and persons that will benefit from the proposed rule.

This rule affects underground storage tank owners and operators. As such, they are the ones most likely to bear the cost of compliance. While UST owners and operators will benefit from compliance with the rule through a reduction in leaks and the cost associated with addressing leaks, all citizens of Missouri benefit from a potential reduction in the number of leaks from regulated UST systems. Missouri USTs are in every county and in almost every community in the state. They are found at gas stations, hospitals and nursing homes, fleet and trucking facilities, state and local government facilities and more.

In addition, the proposed changes will have a positive impact on tank contractors and tank equipment suppliers as tank owners and operators implement the required changes to their tanks and systems.

4. A description of the environmental and economic costs and benefits of the proposed rule.

New Installation Requirements – 10 CSR 26-2.019

The Department is proposing to require installation notifications for piping installations. Currently the regulation requires notification for new tank system installations only. When discussed during stakeholder meetings, most stakeholders thought that this was already required or felt most situations in which piping is currently being replaced are situations in which the Department is already aware of the replacement (piping failures, leaks, other piping issues). The Department already receives ‘courtesy notifications’ on piping replacements. Installation problems are one of the top 2 causes of new leaks in Missouri. As such, oversight of installations is a significant way to prevent environmental contamination. Once the piping is installed, it is buried underground, making finding problems and potential leaks practically impossible. Identifying potential problems at installation is one of the most effective ways to prevent future releases. The cost to notify the Department is minimal: 15 minutes to complete the form and email it to the Department. The information included is readily available. The requirements after the notification remain the same. As such, the cost for each notification for each piping install, of which there are fewer than 15 each year, is less than \$25, with a combined annual total of less than \$375.

Another proposed change is to require new marinas to comply with the Petroleum Equipment Institute’s Recommended Practice 1000-2009, Recommended Practices for the Installation of Marina Fueling Systems. These tanks are in environmentally sensitive areas, where a leak would impact water ecosystems almost immediately. In addition, these systems are uniquely configured, with the tanks typically above the dispensers, which could allow the tank to be siphoned by the dispensers. These configurations can lead to significant leaks in environmentally sensitive areas. The Department has been recommending the use of this guidance document since its publication in 2009. The Missouri Department of Agriculture has been requiring compliance with almost all, if not all of its significant pieces as well. The Department is not aware of any marina UST installations that have not complied with this guidance document in the last four years. As such, we do not believe that compliance with this proposed change has a new cost associated with it, but do believe it will ensure clear requirements and environmental protection in the future.

The Department is also adding an option for post-installation tightness testing. Currently the regulations only provide one option for testing the tank after installation, a tank tightness test. The proposed regulation will add a second option, testing the tank using the automatic tank gauge with the tank 95% full. As this is a new, second option, it does not add a cost, but instead lowers the cost by creating a new, potentially less costly option for compliance.

The final proposed change in this regulation is to require all new tanks be tied down. In the last three years, we have typically seen less than 10% of the tanks that are not tied down at install. With an average of 155 new tanks installed each year, that means that typically 15 tanks are not tied down. These tanks can float, leak product, cause damage to the site, hinder property sales, cause safety issues, and be a general nuisance. Based on information from installation contractors, the cost of a contractor- manufactured tie-down system is approximately \$2,000.

Performance Standards for New Underground Storage Tanks Systems – 10 CSR 26-2.020

The Department has proposed a change that would prevent the installation of metal piping outside of a containment sump in the future, with the exception of replacement of flexible connectors. A poll of installation companies found that none of the contractors had installed any metal piping outside of a containment sump, other than flexible connectors, in the last five years. Furthermore, when asked for costs, installation contractors indicated that the installation of metal piping is higher than the installation of the readily available non-metallic flexible piping often installed at UST sites. Metal piping corrodes, creating holes that allow product loss leading to contamination in the environment. Old metal piping has a history of documented releases associated with it. As installation of metal piping does not appear to be a current practice and is a more expensive option, the Department does not anticipate this to be cost burden.

The second proposed change in this rule is the deletion of an option to install a metal UST without the addition of cathodic protection if a corrosion expert can document that the site is not corrosive enough to damage the UST system. This option is not currently in use anywhere in Missouri. While this was a federal option included in the state regulations, it is not a practical option in Missouri's wet environment. As this option does not appear to be appropriate here in Missouri, we have removed the language from the regulations. As this option is not in use, and as metal UST systems are not being installed in Missouri, we do not believe this will be a cost-burden for new systems in the future.

Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021

The Department is proposing changes to old, lined tanks that are typically beyond their warranty and life-expectancy. These regulations are being changed to ensure that these tanks are being inspected and repaired in a way that confirms that they remain leak-free as long as they are operational. EPA's UST regulation changes include modifications to the interior lining regulations. Specifically, their regulations require interior lined tanks be closed/replaced if the interior lining fails. The Department's proposed alternative requirements for interior linings, include:

- (1) Linings must meet the new UL 1856 installation standard,
- (2) Technicians must be certified (technicians must be certified to do work in almost every other aspect of UST service),
- (3) Documentation must include photographs,
- (4) An additional, less costly inspection option,
- (5) A new technology that allows repair of a lined tank that might otherwise, under the federal regulations, have to be closed.

While pieces of this regulation may be more costly than the new regulation, the proposed interior lining rule must be considered in its entirety as an alternative to the EPA federal regulation, including the closure requirement.

Furthermore, the Department is only aware of four companies that conduct interior lining installation and repair work in Missouri. Of those four companies, three of them already comply or are in the process of complying with the proposed regulations. As such, the proposed

regulations have no associated increased costs to three of the four (including the two predominant companies) in Missouri. As the cost to permanently close a tank can be around \$15,000-\$20,000, the cost for the alternative interior lining rule package, which includes more detailed interior lining requirements, but doesn't require permanent closure in the event of a failure, is a less costly requirement than the federal version of the same rule package.

The one contractor that does not already meet the proposed regulations indicated that it would cost approximately \$8,000 total to comply with the training and certification requirements. He indicated that he believed his product is already tested to be certified under UL1856; as such, there would be no additional costs to comply with this requirement for his company. As for the additional documentation requirements, he indicated that he already does the additional documentation at some of the sites where he conducts interior lining inspections and installations. According to state records, he conducted approximately 13% of the interior lining inspections and installation; as he already complies with the additional documentation requirements at some of his sites, the Department used 10% of the lined tanks requiring additional documentation for the purposes of this RIR. As we have about 900 active lined steel tanks, this would leave approximately 90 lined tanks that would need additional documentation for the lining inspections and installations. The company that would need the additional documentation indicated that this would likely cost around \$250 per tank for a total of \$22,500. Please note, the federal alternative would likely require permanent closure of some of these tanks, which could cost \$15,000-\$20,000 *per tank*.

Also included in this proposed rule is an additional, alternative interior lining inspection option. Some facilities opt to use interstitial monitoring to comply with tank release detection requirements. This monitoring could be used to meet the interior lining inspection. If a site is using interstitial monitoring, the Department could accept 12 months of interstitial monitoring records in lieu of the standard interior lining inspection. As an interior lining inspection can cost \$2,000-\$5,000 per tank, this is a potential significant cost savings per lined tank.

Spill and Overfill Control – 10 CSR 26-2.030

The Department is proposing a change that would limit temporary repairs to spill basins. Spill basins must be leak tight and prevent releases to the environment. To this end, spill basins must be maintained and repaired to continue to prevent releases. Temporary repairs must continue to be repeatedly inspected by Department inspectors to ensure they function until permanent or long-term repairs are made. The Department is continuing to allow permanent and long-term spill basin repairs. Replacement of spill basins is also allowed. As such, the proposal to limit temporary repairs does not increase an owner/operator's costs, although they would incur the cost sooner. The proposal does reduce the Department's costs as inspectors would not have to continually inspect temporary repairs that we expect to fail.

Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041

EPA's federal rule changes included modifications to the vapor and groundwater monitoring methods. Sites that want to continue to use these methods would need to document that their wells are installed in accordance with a current, approved installation guidance for vapor and groundwater monitoring, the wells are properly built, the current background readings (a site

assessment), and have all of the documentation certified by a registered geologist or a professional engineer.

Of the over 3,200 UST in use at facilities in the state, 20 or less still use groundwater monitoring for their UST system monitoring; while 42 sites or less still use vapor monitoring to check for leaks in their UST systems. The EPA's proposed rule changes are extremely costly and owners must comply by October 13, 2018. The Department is proposing eliminate these methods, but is giving owners more time, until July 1, 2020, to comply. These leak detection methods function by detecting product in water or soil around the tank system up to 30 days after the leak occurs. These methods can be hindered by water, rainwater or low and high water tables, which are often a problem throughout Missouri. These methods can have false alarms any time there is a surface spill, nozzle leak or other incident.

Lastly, the cost associated with complying with the EPA's new rule is significant. The cost to sign up for a contract to conduct statistical inventory reconciliation (SIR), an acceptable method, and conduct this method for a year include a \$50 site set up fee and a \$130 per tank annual fee. With the cost of compliance with the federal regulation for vapor or groundwater monitoring approximately \$14,000 - \$16,000 and the cost to sign up for SIR service for a site with three (3) tanks for five (5) years at approximately \$2,000, compliance with the Department's proposal is significantly less expensive than the cost to comply with the new federal requirement.

Methods of Release Detection for Tanks – 10 CSR 26-2.043.

The Department has proposed a single state-specific change within this rule. The change would require new interstitial monitoring systems installed after July 1, 2017 (double-walled systems required by 10 CSR 26-2.020 or 10 CSR 26-2.021, and interstitial monitoring required by 10 CSR 26-2.041) to be monitored electronically and with a system equipped with a report-generating capability. Electronic systems monitor continuous and alarm immediately when a problem is detected. Manual monitoring is typically conducted only once a month, meaning a problem could go undetected for 30 days. Furthermore, manual monitoring is more likely to damage the tank system with continuous opening of the port, inserting the monitoring device, and ensuring a tight seal upon completion. Sites rarely use manual monitoring. This requirement would only apply where a new system is already being installed, where the cost for installation is already being evaluated and determined to be an asset for the owner. As such, this added component could be evaluated as part of a new system. The estimated cost for a new site, installing 3 tanks, for all three tanks combined would be approximately \$20,000. That assumes that the site is not already installing a new electronic monitoring system. Out of the 163 tanks installed in 2015, only one of the tanks did not have an electronic monitoring system installed. Out of the 160 tanks installed in 2014, no tanks were installed without an electronic monitoring system. Installing an electronic monitoring system that would meet this requirement appears to be the norm as less than one tank a year is installed without one.

Operation and Maintenance of Corrosion Protection – 10 CSR 26-2.031

The only state-specific change is this rule is a clarification. In 2011, the rule was amended to include requirements for cathodically protected UST systems, including piping, which remain unprotected for more than 90 days. As that language did not clearly address piping, the proposed

rule will specifically outline the requirement for piping. The Department does not consider this a change, simply a clarification.

Definitions – 10 CSR 26-2.012.

The definition regulation changes include Missouri statutory definitions, as well as the federal definitions that were updated in the 2015 EPA regulation changes. The definition changes also include the inclusion of many federal definitions that were previously included by reference that were not amended by the 2015 EPA rule change. The Department wanted to create a “Definition” rule that would include the previously “incorporated by reference” definitions, statutory definitions, as well as the new EPA changes. To provide clarity, some of the definitions have been edited with language that was added to the rules in 2011. We did not change the content or intent of the definitions included in this rule, although there may be a benefit to having all definitions in one place in the regulations.

5. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue.

Approximately 31 UST facilities are owned by state agencies. Based on their operations, release detection methods, and typical repairs, though, most of these changes will not apply at their facilities. The new installation regulations would likely be the only proposed changes that would affect state agencies, in the very uncommon event where they install a new tank system. This is not a common occurrence at state owned facilities. But, should this occur, the only added expense would likely be the cost to complete and submit the new installation notification form for sites where piping only is being installed (\$15 per occurrence).

New Installation Requirements – 10 CSR 26-2.019

As the Department will potentially receive an increased number of new installation notifications, the department will have to conduct more new installation inspections. This increase will cost us more up front but as we believe these inspections prevent petroleum tank leaks, they will save time and money in the long run.

Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021

While the Department may have additional documents to review, which would include costs in the immediate future; this will prevent leaks and save extensive review in the long run.

Spill and Overfill Control – 10 CSR 26-2.030

This proposed rule change saves the Department by eliminating the need for re-inspections and/or follow-up by requiring immediate permanent corrections instead of temporary spill bucket repairs.

Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041

EPA's groundwater and vapor monitoring requirements involve extensive compliance documentation. The Department's proposal is less complicated and will save time and money for Department staff.

6. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction, which includes both economic and environmental costs and benefits.

The primary effect of this group of proposed amendments and additions is to update the state regulations for underground storage tanks to incorporate the recently promulgated federal regulations on which they are based. In the UST program, states may obtain "State Program Approval" (SPA) which means that, once the EPA grants SPA, the state UST rules are the only UST rules effective in the state, not the federal UST rules. Owners and operators need not comply with two different sets of potentially overlapping UST regulations. To obtain SPA, states must demonstrate that their UST rules are equitable to the federal UST regulations.

If the Department does not promulgate the federal regulations, the Department cannot apply for the Revision of the State Program Approval (SPA). As such, the EPA would follow the procedures for the Withdrawal of Approval of State Program and the EPA regulations would become effective in Missouri as written in the federal regulations.

If the Department does not act, federal compliance dates will be effective and more stringent regulations will be in effect. In addition, the more stringent language found in the federal regulations would be in effect if the state does not promulgate the following two state regulations:

Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021: If an interior lining failed an inspection and could not be repaired, there would be no option but permanent closure. This would be a very expensive option (\$15,000-\$20,000 or more per tank). With the state proposal, closure is always an option, but the proposed regulation provides other options as well.

Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041

If the state specific proposal is not implemented, owners and operators will have to comply with more expensive and complex federal requirements to continue to use groundwater and vapor monitoring. The EPA's federal rule changes included modifications to the requirements for vapor and groundwater monitoring methods. Sites that want to continue to use these methods would need to document that their wells are installed in accordance with a current, approved installation guidance for vapor and groundwater monitoring, the wells are properly built, the current background readings (a site assessment), and have all of the documentation certified by a registered geologist or a professional engineer. These requirements would also go into effect on October 13, 2018, instead of Missouri's date of July 1, 2020.

Inaction for the state specific proposals would mean:

New Installation Requirements – 10 CSR 26-2.019: Failure to implement this rule would leave longer new installation notification times and more stringent, costly post-installation testing requirements than are currently in the regulations. Failure to implement a notification of piping requirement would have some piping installations that have no Department oversight. As noted above, installation errors are included in the top 2 causes of modern leaks and; therefore, install inspections may be one of the most effective ways to help prevent environmental damages. In addition, the 30 new installation notification requirements would remain in effect, rather than the shortened, 14 proposed notifications.

In addition, the Department's UST federal grants are contingent upon Missouri's compliance with the Energy Policy Act of 2005 and other grant conditions. Failure to promulgate secondary containment requirements, which are included in this rule package, could lead to partial or full grant withholding.

7. A determination of whether there are less costly or less intrusive methods for achieving the proposed rule.

For the following rules, the Department believes the proposed rules are the least intrusive and least costly (or only methods) options available: *New Installation Requirements – 10 CSR 26-2.019*, *Performance Standards for New Underground Storage Tanks Systems – 10 CSR 26-2.020*, *Spill and Overfill Control – 10 CSR 26-2.030*, *Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041*, *Methods of Release Detection for Tanks – 10 CSR 26-2.043*.

For *Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021*, the Department believes this is the only alternative to the federal regulation that would satisfy the requirements of the federal SPA regulations.

For *Operation and Maintenance of Corrosion Protection – 10 CSR 26-2.031*, the Department believes this language is merely clarification and is not costly or intrusive.

8. A description of any alternative method for achieving the purpose of the proposed rule that were seriously considered by the Department and the reasons why they were rejected in favor of the proposed rule.

As stated above, these rules had few or no options to the language proposed herein. The Department could have chosen straight federal compliance deadlines, but EPA allowed us to extend deadlines to allow Missouri owner/operators more time. The Department has attempted to include language that is open to as many possibilities as the EPA regulations would allow. The Department must satisfy the requirements of the SPA regulations to have regulations that will be accepted as at least as protective as the EPA regulations. To that end, very few, if any, alternatives were available.

The Department considered adding more stringent requirements for Statistical Inventory Control but after stakeholder input, we reconsidered due to the cost. The Department also considered

prohibiting tank installation within three hundred (300) feet of a drinking water well but withdrew the proposed regulation due to stakeholder concerns.

9. An analysis of both short-term and long-term consequences of the proposed rule.

New Installation Requirements – 10 CSR 26-2.019

The Department has proposed a change that would reduce the notification time from 30 days to 14 days, which does not affect the environmental conditions and simply makes the notification easier for the installers. The Department is also proposing to require installation notifications for piping installations. As we already inspect new installations, we will continue to inspect new piping installations, both in the short-term and long-term. We hope that we can see a decrease in releases in the long-term.

The final proposed change in this regulation is to require all new tanks be tied down. We hope to see fewer tanks float during floods in the long-term.

Performance Standards for New Underground Storage Tanks Systems – 10 CSR 26-2.020

The Department has proposed a change that would prevent the installation of metal piping outside of a containment sump in the future, except for flexible connector replacement. We hope to see a reduction in leaks, especially from metal piping in the long-term. We expect to see a phase-out of metal piping in the long-term.

Upgrading of Existing Underground Storage Tanks Systems – 10 CSR 26-2.021

The Department is proposing changes to old, lined tanks that are typically beyond their warranty and life-expectancy. We anticipate seeing better documentation of the condition of older tanks in the short-term. We expect to learn more about these old tanks and the linings in the short-term, as well as to see better monitoring of them in place. Long-term goals include fewer leaks from lined tanks.

Spill and Overfill Control – 10 CSR 26-2.030

The Department proposed a change that would limit temporary repairs to spill basins. We expect less oversight of spill basin repairs in the short term. We expect fewer leaks associated with spill basins in the long-term.

Requirements for Petroleum Underground Storage Tank Systems – 10 CSR 26-2.041

We expect to see groundwater and vapor monitoring phased out by July 1, 2020, and better methods in place by that date. As a result of having better methods in place, releases may be found sooner and addressed before they cause more environmental damage.

Methods of Release Detection for Tanks – 10 CSR 26-2.043.

The Department has proposed a single state-specific change within this rule. The change would require new interstitial monitoring systems installed after July 1, 2017 (double-walled systems required by 10 CSR 26-2.020 or 10 CSR 26-2.021, and interstitial monitoring required by 10 CSR 26-2.041), to be monitored electronically and with a system equipped with a report-generating capability. We expect smaller leaks in the future as electronic monitoring systems should provide immediate detection and alarms. As such, owners are notified sooner and can respond to a potential problem, stopping the leak before it becomes a larger release. We hope to see fewer larger releases in the future.

Definitions – 10 CSR 26-2.012.

The definition regulation changes include the addition of Missouri statutory definitions to the rule, as well as adding federal definitions to include the updates in the 2015 EPA regulation changes. The definition changes also include the addition of many definitions from the federal regulations that were previously incorporated by reference. Although these federal definitions were not amended by the 2015 EPA rule change, the proposed amendment will add these regulations to the state rule so that all applicable definitions can be found in one place. The Department wanted to create a “Definition” rule that would include the previously “incorporated by reference” definitions, statutory definitions, as well as the new EPA changes. To provide clarity, though, some of the federal definitions have been edited with language that was added to the operational rules in 2011. Some of the statutory definitions were enhanced with federal definition language, for consistency and clarity. We did not change the content or intent of the definitions included in this rule.

In 2011, Missouri regulations changed who could test and install cathodic protection systems. The new proposed definition regulation included federal definitions for “cathodic protection tester” and “corrosion expert,” but those definitions were modified to include 2011 state rule changes.

10. An explanation of the risks to human health, public welfare or the environment addressed by the proposed rule.

Since the beginning of the UST program, preventing petroleum and hazardous substance releases from UST systems into the environment has been one of the primary goals of Missouri’s UST program. Although the department has made significant progress in reducing the number of new releases, UST releases are a leading source of groundwater contamination in Missouri. The proposed revisions will prevent future releases, and also reduce the frequency and severity of releases that occur.

Lack of proper operation and maintenance of UST systems is the main cause of new releases. Information on sources and causes of releases shows that releases from tanks are less common than they once were. However, releases from piping and spills and overfills associated with deliveries have emerged as more common problems. In addition, releases at the dispenser are one of the leading sources of releases. Finally, data show that release detection equipment is only detecting approximately 50 percent of releases it is designed to detect.

Each of these issues that contribute to the problem of releases from USTs is addressed by the various changes in this proposed rulemaking and reducing the number of releases will prevent risks to Missouri citizens and the environment.

11. The identification of the sources of scientific information used in evaluating the risk and a summary of such information

The primary effect of this group of proposed amendments and additions is to update the state regulations for underground storage tanks to incorporate the recently promulgated federal regulations on which they are based. In the UST program, states may obtain “State Program Approval” (SPA) which means that, once the EPA grants SPA, the state UST rules are the only UST rules effective in the state, not the federal UST rules. Owners and operators need not comply with two different sets of potentially overlapping UST regulations. To obtain SPA, states must demonstrate that their UST rules are equitable to the federal UST regulations. Federal regulations are adopted after a lengthy process that involves an evaluation of relevant scientific data, among other things, so to the extent that the state regulations are moving closer to the federal regulations on these topics, this proposed rulemaking is based in part on the analysis underlying the adoption of the applicable federal rules.

For those portions of the rulemaking that are not directed at making state regulations mirror federal regulations, the Department’s proposal is based upon a number of sound considerations as outlined in Question 4, above, including identification of environmental problems, issues that require resolution under the regulations, but require more clearly defined action, environmental concerns that include oversight that is costly to the state, and last, but by no means least, all of these proposals were discussed at length with stakeholders for input, review, experience and assessment.

There were no independent sources of scientific information used in the development of this rulemaking. For each federal rule that is the subject of this rulemaking, the rulemaking docket for the rule includes various types of scientific information relied upon as part of the rule development process at the federal level.

12. A description and impact statement of any uncertainties and assumptions made in conducting the analysis on the resulting risk estimate.

None

13. A description of any significant countervailing risks that may be caused by the proposed rule

The Department is not aware of any significant countervailing risks associated with this proposed rule. These rules are largely based on the federal rule package. Even the state proposed rules are largely tied to the recent federal rule changes. As the EPA proposed these rules years ago and the Department has been discussing these proposed changes throughout the state, the Department is not aware of any significant countervailing risks.

The Department is aware of concerns about the cost of the federal rule package and the recordkeeping associated with the federal rule package.

14. The identification of at least one, if any, alternative regulatory approaches that will produce comparable human health, public welfare or environmental outcomes.

For the majority of the proposed rules in this rulemaking, there are no alternative regulatory approaches. Again, the state proposals are tied to the federal regulation package. In addition to the recently proposed UST requirements, the Department's state regulations must be approved by the EPA to meet the SPA regulations. As such, the Department has been discussing the draft regulations with representatives of the EPA throughout the informal rulemaking process. The Department is aware that options that will meet the EPA's SPA regulations are limited.

15. Provide information on how to provide comments on the Regulatory Impact Report during the 60-day period before the proposed rule is filed with the Secretary of State

The Regulatory Impact Report will be posted on the Hazardous Waste Program's Rules in Development page at [Hazardous Waste Rules in Development - DNR](#). Comments may be submitted by email to tim.eiken@dnr.mo.gov, or by mail to:

Tim Eiken, Rule Coordinator
Hazardous Waste Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102-0176

16. Provide information on how to request a copy of comments or the web information where the comments will be located.

The Regulatory Impact Report and all comments received will be posted on the Rules in Development Page at [Hazardous Waste Rules in Development - DNR](#). Comments may also be requested by contacting Tim Eiken, Rule Coordinator, by email at tim.eiken@dnr.mo.gov, or by phone at (573) 522-8057.