

<p style="text-align: center;">Water Quality Control Division</p> <p style="text-align: center;">Implementation Policy</p> <p style="text-align: center;">Colorado Department of Public Health and Environment</p>	<p>Implementation Policy Number: Clean Water 5</p>
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<p>Discharge from Water-Based Fire Suppression Systems</p>	<p>Approved By:</p>
	<p>Approval Date: December 19, 2014</p>
	<p>Effective Date: December 19, 2014</p>
	<p>Scheduled Review Date: January 2, 2020</p>

Purpose:

The purpose of this policy is:

1. To define a category of discharges of non-potable water from water-based fire suppression systems for which the Water Quality Control Division will not seek application for CDPS permit coverage or take enforcement action against those operators that have not obtained permit coverage.
2. To establish that the Water Quality Control Division will not issue general permit coverage for discharges from water based fire suppression systems.

Authority:

In accordance with the Colorado Water Quality Control Act, and consistent with the federal Clean Water Act, no person shall discharge any pollutant into any state water from a point source without first having obtained a permit from the Water Quality Control Division. The Colorado Water Quality Act also includes provisions for oversight and enforcement of the requirements to obtain permit coverage for point source discharges. However, neither the act nor the implementing regulation for the act compels specific compliance or enforcement responses for discharges that occur without permit coverage. Responses to such occurrences are instead contained within implementing policies and procedures. Consistent with this process, this policy relies on the description provided in the act and regulation for the Water Quality Control Division to determine the appropriate response to the occurrences of unpermitted discharges.

Definitions:

Backflow Prevention Assembly or Device: means any mechanical assembly or device installed at a water service line or at a plumbing fixture to prevent a backflow contamination event, provided that the mechanical assembly is appropriate for the identified contaminant at the cross connection and is an in-line field-testable assembly.

Operator: The party that has operational control over the discharge, including the ability to meet the limitations in this policy.

Potable Water: Water suitable for human consumption in accordance with Colorado Primary Drinking Water Regulations (5 CCR 1002-11), or water intended for human consumption from a public or private supply system not subject to 5 CCR 1002-11.

Source Water: means the water that is used to supply the water based fire suppression system.

Water-Based Fire Suppression System: Device, equipment, and systems used to extinguish or control a fire using water. The system also includes tanks or reservoirs used to contain supply water for the system.

Applicability:

This policy is applicable to the point source discharge of non-potable water from water-based fire suppression systems that is not associated with an emergency fire fighting activity. For the purposes of this policy, water is non-potable when it is within a fire suppression system that isolated downstream of a backflow prevention assembly or device for that system. The policy is applicable to discharges to surface waters, storm sewers, and to the ground via land application.

This policy is not applicable to discharges of potable water that is directly from a potable water distribution system, tank or storage that has been maintained for potable water distribution use, or discharges from a fire suppression system where the system is installed as a portion of a potable water supply system in a multi-purpose system for which fire sprinkler heads are integrated into the potable water system. Discharges of potable water are addressed by the Water Quality Control Division's Low Risk Discharges Water Quality Policy 27 - Low Risk Discharge Guidance for Discharges of Potable Water.

This policy is not applicable to discharges to ground water subject to regulation by the EPA or by implementing agencies under Senate Bill 181, which includes discharges to facilities operating under a permit issued pursuant to the Underground Injection Control provisions of the Safe Drinking Water Act, 42 U.S.C. 300f and to Surface Impoundments or Other Engineered Units Subject to Colorado Solid Waste Rules 6 CCR 1007-2.

Policy:

While regulations do require that operators of point source discharges obtain a CDPS permit, the Water Quality Control Division will not take enforcement action for those operators which have not obtained CDPS permit coverage for discharges from water-based fire suppression systems, providing that the operator can prove that all of the following limitations have been met:

1. The source water used to supply the water-based fire suppression system is potable water.
2. No chemicals or other materials are added to the fire suppression system or the potable source water.
3. The water to be discharged is not used for any additional process other than supplying the fire suppression system. Processes include, but are not limited to, any type of washing, heat exchange, manufacturing, and hydrostatic testing of pipelines not associated with the fire suppression system.
4. The operator of the discharge is certified by the Colorado Division of Fire Prevention and Control to perform the activity resulting in the discharge, including but not limited to certified fire suppression contractors, fire suppression inspectors, and backflow contractors.
5. The discharge shall not cause erosion of a land surface.
6. If the discharge is directly to a classified state surface water (e.g., a stream, creek, gully, etc., whether dry or flowing), it must not contain any residual chlorine. The operator is responsible for determining what is necessary for removing chlorine from the discharge. If the discharge is to a ditch that is an unclassified state water, the flow must not contain any residual chlorine contributed by the discharge at the point where the ditch flows into a classified state water. Note that chlorine content may still be limited by the owner of the ditch.
7. The operator that is certified in accordance with limitation 4, above, shall keep records for every discharge event. The records shall include the purpose (e.g., type of test/maintenance being conducted), date, time, location, and estimated volume for every discharge to a state water, storm sewer, or to the ground.

The Water Quality Control Division will develop and maintain guidance for operators discharging in accordance with this policy that includes control measures, in addition to those required to meet the conditions above, which are intended to be protective of the beneficial uses of receiving waters.

This approach to enforcement will not apply to criminal violations or in situations where there are egregious circumstances, such as those resulting in serious environmental harm, adverse impacts to the beneficial uses of state waters, or which pose an imminent or substantial endangerment to public health and/or the environment.

It should be noted that unpermitted surface water discharges could be subject to third-party or federal enforcement even where control measures are implemented. Operators wishing to obtain the additional legal protection provided by permit coverage can submit an individual permit application for these discharges to the Water Quality Control Division for processing. The Water Quality Control Division has decided not to issue a general permit for discharges from fire suppression systems.

The issuance of this policy does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights. All discharges must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts, and other local agencies regarding any discharges to storm water conveyances, or other water courses under their jurisdiction.

This policy in no way limits the Water Quality Control Division's authority to enter and inspect premises and records, as provided in the Colorado Water Quality Control Act (Section 25-8-306).

This policy is intended to provide operational direction to the Water Quality Control Division. Nothing in this policy shall be construed to preclude the authority of the Water Quality Control Division pursuant to any applicable state law or regulation under authority granted by Section 510 of the Clean Water Act.

Background:

This policy documents the Water Quality Control Division's determination that it will not actively pursue permitting or enforcement against operators that have not obtained Colorado Discharge Permit System permit coverage for discharge of non-potable water that meet the conditions of the policy (referred to in this document as discharges within the scope of the policy). Discharges of potable water associated with fire suppression systems are separately addressed by the Low Risk Discharge Guidance for Discharges of Potable Water in accordance with the division's Low Risk Discharges Water Quality Policy 27. The division will issue separate operator guidance outside of this policy to comprehensively address both types of discharges (discharges within the scope of this policy and discharges addressed in the low risk discharge guidance). This separate guidance will address practices for such discharges and alternative disposal methods for discharges that are not discussed in the scope of the two policies.

Water-based fire suppression systems are commonly installed in structures in Colorado. In the vast majority of cases, these systems are supplied from a potable water supply system and isolated by a backflow prevention assembly or device. These systems can either be "wet," meaning that water is maintained within the pipes downstream of the backflow prevention assembly or device, or "dry," meaning that water is only fed into the system when needed. The construction, maintenance, testing, and modification of these systems require water contained in the systems occasionally be released.

Discharges from water-based fire suppression systems are short term, infrequent-discharges of variable volume. Discharges from a single event are often of low volume, such as inspector tests which typically generate less than 50 gallons. Other more infrequent activities can generate higher volumes, such as leak tests and large system

drain-downs that may generate 3000-4000 gallons from a single event. Multiple simultaneous discharges from these systems to the same storm sewers and/or the same stream segments may occur in areas with high concentrations of buildings, such as downtown urban areas with high-rise office buildings.

In some cases it is feasible for discharges to be either directed into a sanitary sewer or collected and subsequently discharged to the sanitary sewer. However, operators in Colorado have found that in many cases it is not practicable to prevent the discharge of water from these systems from reaching the ground or state surface waters (including discharges to storm sewers). When such discharges do occur to the ground or state waters, it is not currently industry practice to provide treatment for such discharges, and practicable on-site treatment options have currently not been identified.

Previous division practice has been to authorize discharges from water-based fire suppression systems under the CDPS general permit for Discharges Associated with Hydrostatic Testing of Pipelines, Tanks, and Similar Vessels, COG604000. Twenty-three permit certifications were issued under this general permit to operators for discharges from water-based fire suppression systems. Permit certifications were issued to cover multiple undefined outfall locations, and the majority of certifications authorized discharges from unlimited outfalls anywhere in Colorado. Numeric effluent limits in the general permit were based on end of pipe concentrations and did not account for available mixing within the receiving water. Only two of the permitted operators submitted Discharge Monitoring Reports (DMRs) associated with the discharges covered under these certifications. For those discharges for which DMRs were submitted, exceedances of the numeric effluent limitations for iron and total suspended solids were identified. It is assumed that discharges likely occurred under the other 21 permit certifications authorized by the division, but for various reasons, including a lack of understanding of permit requirements, monitoring and reporting including the submission of the DMRs did not occur. In addition, the 23 permitted operators represent only a small percentage of operators in the state performing similar activities resulting in discharges from fire suppression systems.

Discharges of Potable Water versus Non-Potable Water

This policy is one of two policies issued by the division to address discharges from water based fire suppression systems. This policy address discharges of non-potable water, while the Low Risk Discharge Guidance for Discharges of Potable Water under the Low Risk Discharges Water Quality Policy 27 addresses discharges of potable water. Potable water is water that is suitable for human consumption in accordance with Colorado Primary Drinking Water Regulations (5 CCR 1002-11), or water intended for human consumption from a public or private supply system not subject to 5 CCR 1002-11.

The division Low Risk Discharge Guidance for Discharges of Potable Water under the Low Risk Discharges Water Quality Policy 27 identifies discharges of potable water for which the division has conditionally determined it will not actively pursue permitting or enforcement. The Low Risk Discharge Guidance for Discharges of Potable Water addresses:

- water from a potable water system that supplies the fire suppression system via a backflow prevention assembly or device; and
- water from a multi-purpose fire suppression system that is integrated in with the potable water system.

Refer to the Low Risk Discharge Guidance for Discharges of Potable Water for additional conditions and guidance.

This policy addresses discharges of non-potable water associated with fire suppression systems that are outside of the scope of the potable water guidance. Water isolated downstream of a backflow prevention assembly or device is no longer maintained as potable water and therefore the Low Risk Discharge Guidance for Discharges of Potable Water is not applicable. Non-potable water in fire suppression systems has the potential to contain pollutants resulting from the conditions in the system (e.g., metals from pipe corrosion), or chemical additives. In some cases the quality of the water may not significantly differ from potable water. However, the potential for contribution of pollutants can vary widely depending on a number of variables, such as the length of time the water is present in the fire suppression system, and the nature of the pipes (e.g., composition, age, condition).

Potential Pollutants in Water-Based Fire Suppression Systems Discharges

1. Potable Source Water

The Low Risk Discharge Guidance for Discharges of Potable Water documents the division's determination that discharges of potable water are, with proper management, not expected to contain pollutants in concentrations that are toxic or in concentrations that would cause or contribute to a violation of a water quality standard. The division maintains this determination regarding the potential for pollutant contributions associated with potable source water for fire suppression systems. This policy is consistent with the Low Risk Guidance for Potable Water in its incorporation of limitations and control measures to address chlorine as a potential pollutant associated with the potable water source.

In some cases, potable water is routed for storage in a tank or reservoir for the purpose of supplying the fire suppression system. Because the stored water is not maintained as potable, discharges from the pond or supplied fire suppression system are not within the scope of the Low Risk Discharge Guidance for Discharges of Potable Water. However, because the original source water was potable, the fire suppression system would still be considered supplied by potable water supply systems (see condition 6 of the policy), and therefore would be within the scope of this policy as long as the remaining conditions are met. If fire suppression water that would meet the limitations of this policy is recirculated back into the storage system to augment the direct potable water source, water from that system can still be considered supplied by a potable water supply systems within the scope of this policy if it does not result in a measurable increase to concentrations of iron, zinc, lead, or copper. However, if the recirculation results in increased concentration of these pollutants, the conditions would be different from what was evaluated for potable water systems and discharges from the system would be outside of the scope of this policy.

2. Non-Potable Source Water

Fire suppression systems can be supplied with non-potable water. Examples include fire-suppression systems supplied with pond water, reclaimed waste water, or from a non-potable well. Due to the variability of potential pollutants in such undefined water sources, this policy does not address discharges from systems supplied by non-potable water.

3. Additives

Chemicals can be added to the fire suppression system or to the source water, including, but not limited to, antifreeze, biocides to reduce microbial corrosion, extinguishing agents, and foaming agents. Due to the variability of potential pollutants associated with additions to the system, this policy does not address discharges from systems containing chemical additives.

4. Contributions from Pipes

Fire suppression systems may utilize a variety of materials for piping. The most common material is black steel. Copper and various plastic materials (e.g., polybutylene and chlorinated polyvinyl chloride) are also used.

Black steel pipe used in fire suppression systems has the potential to corrode and can contribute iron and, in the case of galvanized pipes, zinc to discharges of water from the system. Zinc contributions may also occur from coatings applied to welds, and possibly from some valves and fixtures. Information on elevated concentrations of iron and zinc in water-based fire suppression systems was published in reports by Alleman, I.E.: Milke, J.A.; and Hickey, H.E. (1981) and Duranceau, Steven J., Jacqueline V. Foster, and Jack Poole. (1998).

Table 1 provides a summary of total zinc concentrations from main drain flushes that were identified in the Duranceau et al. (1998) report. Data from main drain flushes were evaluated because it is expected to be representative of discharges that would occur under this policy, as opposed to data drawn from specific

locations within the system. The range of average and median values provided represent averages for different durations of the flushes provided in the report. It is of note that the maximum concentration identified was significantly higher than the second highest value of 4.73 mg/l and the third highest value of 1.92 mg/l. A total of 79 nationwide sites were included in the study and reported zinc data for system flushes.

Table 1: Summary of Zinc Data (Duranceau et al., 1998)			
	Maximum	Average	Median
Total Zinc (mg/l)	24	0.24 – 0.53	0.04-0.05

Total iron concentrations from main drain flushes that were identified in the Duranceau et al. (1998) report are identified in Table 2. The range of average and median values provided represent averages for different durations of the flushes provided in the report. Data indicated that highly elevated concentrations of iron occurred on a frequent basis; with seven sites exceeding 100 mg/l. A total of 79 nationwide sites were included in the study and reported iron data for flushes.

Table 2: Summary of Iron Data (Duranceau et al., 1998)			
	Maximum	Average	Median
Total Iron (mg/l)	351	15.0 – 25.1	2.90-4.76

The two studies reviewed by the division did not identify dissolved versus suspended forms of zinc and iron. However, the primary source of the zinc and iron is pipe corrosion resulting in particulate metals; therefore the division has assumed that the concentration is representative of the suspended form and that dissolved contributions are not significant. This assumption is supported by data from Duranceau et al. (1998) and Alleman et al. (1981) identifying that Total Dissolved Solids (TDS) is not significantly elevated in the systems tested. Additional support for this assumption is provided by data submitted to the division in DMRs, discussed below, for fire suppression systems that identified elevated Total Suspended Solids (TSS), but a very low occurrence of dissolved iron above the detection limit. Because the presence of elevated dissolved zinc in discharges could pose significantly different potential impacts to beneficial use, the division specifically intends to seek further information regarding this assumption and will revise this policy as necessary based on any additional information.

The division received 33 sample results for dissolved iron and 15 sample results for total iron via DMRs submitted in compliance with the general permit for Discharges Associated with Hydrostatic Testing of Pipelines, Tanks, and Similar Vessels, COG604000. Of the 33 reported results for dissolved iron, only four had concentrations above the 0.1 mg/l detection limit, and the maximum reported value was 0.370 mg/L. Of the 15 reported results for total recoverable iron, the maximum reported concentration was 34.0 mg/L and the average was 5.48 mg/L. The division has not required monitoring for zinc in permits issued for fire suppression systems.

The division is unaware of any investigations that identify the potential for substantive pollutant contributions associated with other pipe materials (e.g., copper and plastic). It is possible that elevated copper may occur associated with water in copper pipes in systems. However, copper piping in fire suppression systems would only be expected to occur in small systems, such as in single family homes that would only generate very small quantities of discharge. None of the copper data cited in Table 5 below were from samples taken from systems containing copper pipes.

5. Contributions from Valves, Fittings, and Solder

Components and fittings that are part of the fire suppression system may contain lead, brass, copper, or other materials. These materials may contribute additional metals to discharges. Specifically, lead has been identified in water contained in fire suppression systems, and is attributed to such fittings.

Information on elevated concentrations of lead in water-based fire suppression systems was published in reports by Duranceau et al. (1998) and Alleman et al. (1981). Total lead concentrations from main drain flushes that were identified in the Duranceau et al. (1998) report are identified in Table 4. The range of average values provided represent averages for different durations of the flushes provided in the report, the median value was consistent for all flush durations. It is of note that the maximum concentration identified was significantly higher than the second highest value of 0.44 mg/l and the third highest value of 0.15 mg/l. A total of 79 nationwide sites were included in the study and reported lead data for flushes.

	Maximum	Average	Median
Total Lead (mg/l)	1.70	0.06 to 0.08	0.01

Information on elevated concentrations of copper in water-based fire suppression systems was published in reports by Duranceau et al. (1998) and Alleman et al. (1981). Total copper concentrations from main drain flushes that were identified in the Duranceau et al. (1998) report are identified in Table 5. The range of average values provided represent averages for different durations of the flushes provided in the report, the median value was consistent for all flush durations. It is of note that the maximum concentration identified was significantly higher than the second highest value of 0.23 mg/l. Only three sites had samples that exceeded 0.20 mg/l, and seven exceeded 0.10 mg/l. A total of 76 nationwide sites were included in the study and reported copper data for flushes.

	Maximum	Average	Median
Total Copper (mg/l)	0.42	0.02	Below Detection Limit

The two studies reviewed by the division did not identify dissolved versus suspended form of the metals. The division does not have adequate information to make assumptions about the form the lead or copper is expected to be present in these types of discharges and therefore took into consideration potential impacts from both dissolved and total lead.

The identified source of lead within fire suppression systems is limited to valves, fixtures, and solder. Although copper may also be contributed by copper pipes, the division’s evaluation focused on copper associated with fixtures because of the relative rarity of copper piped systems and the expectations that such systems would produce small volumes of discharge. Fixtures, valves, and exposed solder comprise only a small portion of the system, so would not be expected to significantly influence the bulk of the volume generated during discharges. For this reason, it is the division’s current assumption that the median values identified in this report are the most representative of discharges and the best values to use when identifying potential impacts and the higher concentrations of lead identified would not be expected to occur throughout a discharge.

6. Potential for Additional Pollutant Contributions

It is possible that the sources identified above, or other sources, could contribute additional pollutants that would have the potential to negatively impact water quality. As part of the ongoing review of this policy, the division will continue to seek additional information regarding such additional pollutants not currently identified in this policy.

Potential Impacts on Water Quality and Beneficial Uses

The data available to the division and discussed above demonstrate that there is a potential for pollutant contributions from sources associated with water-based fire suppressions systems within the scope of the policy to result in concentrations at the point of discharge exceeding the following water quality standards:

- Groundwater Standards
 - Dissolved Lead – Agriculture, Domestic Water Supply
 - Dissolved Copper – Agriculture

- Chronic Surface Water Standards
 - Total Recoverable Iron - Aquatic Life
 - Dissolved Lead – Aquatic Life
 - Total Recoverable Lead – Agriculture
 - Dissolved Copper – Aquatic Life
 - Total Recoverable Copper – Agriculture
 - Total Recoverable Zinc – Agriculture, Domestic Water Supply, Water + Fish, and Fish Ingestion

- Acute Surface Water Standards
 - Dissolved Lead – Aquatic Life, Domestic Water Supply
 - Dissolved Copper – Aquatic Life

In dense, downtown urban areas with frequent discharge-generating activities, the overall occurrence of discharges reaching surface waters and the cumulative discharge volume is not expected to be such that chronic surface water impacts would occur. Special consideration was given to the potential for chronic impacts resulting from particulate iron deposition which could occur in close proximity to a discharge point. Because the discharge is expected to occur at outfalls that also contain stormwater flows, the flushing affect of those flows is expected to minimize the potential for chronic impacts resulting from iron depositions in the receiving water at the outfall location. The division is not aware of any observations of increased iron sediment deposits in proximity to urban outfalls that could be contributed to fire suppression system discharges.

Because the zinc and iron contributions are expected to be in particulate form, the only potential groundwater pollutants of concern identified was dissolved lead and copper. Discharges covered by the scope of this policy directed to land with potential percolation to groundwater would be intermittent, limited to smaller volumes, and in disperse locations, as necessitated by the single point in time land application nature of the discharge. Therefore, in cases where lead or copper concentrations in the discharge did exceed groundwater standards, the division did not identify a potential threat of the discharge actually resulting in an appreciable increase in lead or copper concentrations in the groundwater table.

Based on the information evaluated by the division, the potential for pollutant concentration that could exceed acute surface water standards at the point of discharge were only identified for dissolved lead and copper. Because iron and zinc are expected to occur as a particulate in discharges, exceedance of acute standards for the dissolved form of these pollutants is not expected.

The median expected concentration of total lead based on the data from Duranceau et al. (1998) was 0.01mg/l, and was less than all of Colorado's chronic water quality standards. However, concentrations of lead were identified in grab samples from flushes that would exceed both the dissolved lead acute aquatic life and the total recoverable lead acute domestic water supply standards. The data are summarized above in the section on contributions from valves and fittings. In receiving waters with very low hardness, the aquatic life standard may be less than the drinking water standard of 0.05 mg/l. However, the lower aquatic life standard would only occur in waters with mean hardness below 100 mg/l which is a condition not expected to occur with any significant frequency in receiving waters for discharges within the scope of this policy. Of the 79 nationwide sites with applicable lead data in the Duranceau et al. (1998) study, 20 sites had at least one exceedance of the acute drinking water standard in grab samples from flushes, however two of those systems also had lead concentrations approaching or exceeding the standard in water sampled from the potable water source system.

The median expected concentration of total copper based on the data from Duranceau et al. (1998) was below the detection limit. Although the detection limit used for each sample was not provided in the study, all detection limits were stated to be less than the most current EPA national primary and secondary drinking water standards. However, the drinking water standards for copper are higher than the Colorado acute aquatic life standards considered for copper. A review of the sample data from entities conducting analysis for the study show that most entities reported data down to 0.01 mg/l, which represented 53 of the 76 sites, and 29 of the 35 sites reporting below detection limits for all flush data. Although 0.01 mg/l remains higher than the Colorado acute aquatic life table value standard for hardness values below 75 mg/l, receiving waters with hardness in that range are not expected to be present with any significant frequency for discharges within the scope of this policy. Therefore, the division has determined that the data are appropriate for evaluating potential water quality impacts for the purpose of this policy.

Concentrations of copper were identified in grab samples from flushes that would exceed the dissolved copper acute aquatic life standards. The data are summarized above in the section on contributions from valves and fittings. Of the 76 nationwide sites with applicable copper data in the Duranceau et al. (1998) study, 41 sites had at least one exceedance in grab samples from flushes of the acute aquatic life standard for copper at 75 mg/l hardness, and 22 of the acute aquatic life standard for copper at 150 ug/l hardness.

Determination to Not Seek Permit Coverage

The regulation of discharges from water-based fire suppression systems through the current Colorado Discharge Permitting System presents a significant challenge. In reviewing approaches across the county, the division has identified that this source is generally not subject to permitting by other states or the EPA. Standard practice includes the discharge of untreated water directly to storm sewers, surface waters, and the ground (land application). Current practices in Colorado often rely on the direct discharge of untreated water directly to storm sewers, surface waters, and the ground. Although many facilities are being constructed or modified in Colorado to prevent this uncontrolled discharge, the practice remains common place. As a result, the discharges identified within the scope of this policy are already being regularly occurring to surface waters and the ground in Colorado without treatment and significant impacts have not been identified by the division. The division emphasizes that it is not allowing new or increased sources of pollutant to state waters under this policy, but instead is addressing sources that already exist. The division also continues to encourage the practice of reducing the occurrence of untreated discharges from fire suppression systems to waters of the state.

The practice of releasing water from fire suppression systems is essential for operation of the systems and required in Colorado by Department of Public Safety regulations. The division has thoroughly evaluated the ability to permit discharges from this source. Two significant barriers exist to issuance of permits for the source; the ability of operators to meet water quality based effluent limits at the point of discharge (i.e., without dilution) given the lack of treatment options identified at this time, and the feasibility of permitting discharges that occur for typically a few minutes at thousands of locations across the state. Issuance of permits for this source would also put Colorado in the position of non-alignment with typical practices in other parts of the country.

The division has identified that discharges covered under the scope of this policy have the potential to contain lead in concentrations that exceed acute drinking water standards, and both lead and copper in concentrations that exceed acute aquatic life water standards. For this reason, discharges addressed by this policy have not been included under Water Quality Control Division Low Risk Discharges Water Quality Policy 27. The division has not identified any additional potential exceedance of water quality standards that would be expected to occur as a result of discharges within the scope of this policy. Stream segments with an existing impairment for lead or copper have not been identified in areas with urban development for which any significant volumes of discharges covered by this policy would be expected, and for which those discharges that do occur would be extremely intermittent due to the low density of structures containing water based fire suppression systems in non-urban areas. Due to the nature of the aquatic life and domestic water supply uses potentially impacted, and the intermittent nature and typically low volume of discharges, it would also be expected that dilution would be

available in most cases to reduce the potential of actual exceedances within the water body. The division is also not aware of any impacts to these uses occurring in receiving waters that could be associated with discharges from fire suppression systems.

The division's determination to proceed with issuance of this policy is based primarily on the fact that this category of discharge is already occurring and is an existing source of pollutants to waterways for which immediate solutions to terminate or treat discharges state-wide have not been identified. In many cases, practices may be currently possible, or existing facilities may be able to be retrofitted, to facilitate the disposal of waste water without a discharge to waters of the state. Although the division continues to encourage these practices, the solutions provided often take an extended period of time, and the practicability varies for different facilities statewide. Therefore, the division has determined that guidance, rather than permitting, is the most effective way to reduce the potential for increased impacts to waters of the state at this time. The division's decision to issue this policy is based on current conditions and determinations based on the practicability of other options. The division still intends to seek a long term solution that is protective of water quality standards under all potential conditions and that results in compliance with the permitting requirements of the Clean Water Act and Colorado Water Quality Control Act.

The division's approach to address the discharges within the scope of this policy is similar to the Maximum Extent Practicable approach statutorily required for discharges from Municipal Separate Storm Sewer Systems (MS4). Most discharges covered by this policy will occur through stormwater conveyance systems regulated for MS4 discharges. When establishing the requirement for discharge permits for MS4s, congress set a standard that pollutants should be reduced to the Maximum Extent Practicable, recognizing that the discharges were existing and that the application of numeric effluent limits may not be practicable in all cases. The division believes this condition is also true for the discharges from fire suppression systems within the scope of this policy. Because the Maximum Extent Practicable standard is only applicable to MS4 discharges, the application for fire suppression system is only intended to take a similar approach, but is outside of the regulatory permitting framework. In evaluating practicable control measures for fire suppression system discharges, the division restricted the systems covered within the scope of the policy, required practices to control chlorine and erosion, and placed limitations on operators. The division also identified that providing education on good practices and coordinating with operators and stakeholders to encourage use of appropriate control measures met the intent of the Maximum Extent Practicable standard for this source. This guidance will be provided through a separate document to be distributed by the division.

The Colorado regulatory framework may provide additional options for authorizing discharges through permits for this source. This may include standard changes or variances. These approaches would take additional time to evaluate and implement, and still present the division with the problem of issuing permits to operators. The division will continue to evaluate the options of such approaches and may revise or withdraw this policy in the future if such options are determined appropriate and available.

The division has identified that it is appropriate to re-evaluate this policy once every five years. The division will reevaluate all assumptions and determinations documented in the Background section based on the availability of new information of potential chronic impacts during future reviews of this policy. The division may also reopen this policy for considerations at any time prior to the five year reevaluation period based on new information.

Operator Limitations

One of the limitations included in the policy is the requirement that the operator of the discharge be certified by the Colorado Division of Fire Suppression and Control. The Division of Fire Suppression and Control requires operators to be certified prior to working on systems covered by this policy. The limitation therefore helps ensure that discharges are conducted in accordance with necessary operations of these systems.

References:

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4. Water Quality Control Division Low Risk Discharges Water Quality Policy 27
5. Water Quality Control Division Low Risk Discharge Guidance for Discharges of Potable Water