Low Risk Discharge Guidance
Discharges of Potable Water
January 15, 2016

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Scope and Purpose of Modification

This revised guidance document is effective January 15, 2016. In addition to editorial revisions, the following substantive modifications were made:

- Added definitions.
- Clarified the limitations on discharges for which this guidance is applicable, including what is included in a "potable water distribution system."
- Clarified that certain discharges associated with "super-chlorinated" water may be allowed under this guidance when the criteria and conditions are met.
- Added conditions allowing for the use of chemical dechlorination.
- Clarified the requirements and practices for preventing erosion.
- Identified an allowable concentration for residual chlorine in discharges to classified surface waters, consistent with 5 CCR 1002-31, The Basic Standards and Methodologies for Surface Water.

Changes related to potable water distribution systems were made in response to comments received on the draft permit COG604000 General Permit for Discharges from Hydrostatic Testing of Pipelines, Tanks, and Similar Vessels. The final permit was issued on November 23, 2015 and is effective on April 1, 2016. Summaries of the comments and the division's responses are included in the fact sheet for the final permit. In the final permit, the division excluded discharges of potable water from potable water distribution systems and reaffirmed that these discharges are more appropriately covered in accordance with WQP-27, Low Risk Discharges Policy, as an alternative to general permit coverage. The division determined that clarifications should be made to this guidance regarding the issues raised during the general permit renewal process and aligned the timeline of this update with the timeline for issuance of the final permit.

In regard to clarifications regarding what is included in a potable water distribution system, the division found that discharges associated with testing of new lines were consistent with scope of the guidance as long as the construction and installation methods did not render the water non-potable. Clarity was added to this guidance since construction contractors had previously applied and obtained authorization for the discharge of water, including potable water, associated with the installation and testing of new lines, under the COG604000 General Permit.

In regard to super-chlorinated water, the division determined that the super-chlorination of water in potable water distribution systems does not render the water non-potable, and that control measures for dechlorination of super-chlorinated water are highly effective and widely available. Since comments on the COG604000 General Permit requested clarification regarding whether permit coverage under the general permit would be available for super-chlorinated discharges, and since in response to other comments the division excluded all discharges from potable water systems from the COG604000 General permit, the division is clarifying in this modification to the guidance document that certain discharges associated with super-chlorinated water may be allowed under this guidance.

Background and Discussion

This discharge policy guidance has been developed in accordance with WQP-27, Low Risk Discharges Policy. This guidance is only applicable to discharges meeting the low risk discharge criteria and conditions identified below. **Refer to the Alternative Disposal Options section at the end of this document for additional information for discharges that do not meet the criteria and conditions of this guidance.**

When the provisions of this guidance are met, the division will not actively pursue permitting or enforcement for the discharge of potable water, unless on a case-by-case basis the division finds that a discharge has resulted in an adverse impact to the quality of any state waters receiving the discharge.

Discharges of potable water are a type of industrial activity with short term, infrequent discharges that with proper management are not expected to contain pollutants in concentrations that are toxic or that would cause or contribute to a violation of a water quality standard. The typical pollutant of concern is total residual chlorine, however, depending on how the discharge occurs, total suspended solids and oil and grease may become pollutants of concern. These pollutants can be handled using dechlorination techniques, filters, oil booms, and other control measures.

There are a large number of discharges of potable water. For example, approximately 2,000 public water systems are subject to the Colorado Primary Drinking Water Regulations (5 CCR 1002-11). There are additional public and private systems that distribute water intended for human consumption which are not subject to 5 CCR 1002-11. These systems operate potable water distribution systems that generate the types of discharges covered by this guidance. From October 2001 through December 2008, the division had a general permit in place, the Treated Water Distribution Permit (COG380000), to authorize discharges from potable water distribution systems. During the seven years permit coverage was available, 35 systems applied for and obtained permit coverage, a small number relative to the number of systems expected to discharge. The division established the Low Risk Discharge Policy in June 2008 to provide an alternative to general permit coverage for low risk discharges. The division issued the first low risk discharge guidance for potable water discharges in January 2009, which aligned with the timeline for termination of the COG380000 general permit. The division finds that these types of discharges may occur at all times of the year, and require a resource intensive effort to permit, without resulting in a clear general benefit to environmental quality due to the low risk nature of the discharge.

The criteria provided in this guidance must be met, and all of these conditions must be followed, by anyone claiming to discharge under this low risk guidance.

The following are examples of common discharges that **do not meet** the criteria for discharging under this guidance. Discharges that do not meet the criteria for coverage under this guidance shall otherwise be disposed of properly, which may include sending to the sanitary sewer with permission of the local wastewater treatment facility or treating and discharging under a CDPS discharge permit (see the Alternative Disposal Options section at the end of this document).

- Discharges associated with installing or repairing pipe, fittings, and appurtenances for distribution of potable water and for which the discharge water would not meet the definition of potable water are not covered by this guidance. For example, the following would not be covered under this guidance: discharges from cleaning debris and foreign materials from new sections of pipe which have pollutant concentrations making the water unsuitable for human consumption in accordance with Colorado Primary Drinking Water Regulations (5 CCR 1002-11).
- Discharges from cleaning or maintaining components at a construction or utility yard are not covered by this guidance.
- Discharges from a distribution system, tank or storage facility that is used for conveyance or storage of materials other than potable water are not covered under this guidance.

Criteria, Conditions, and Control Measures

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.
- **Classified State Surface Water:** is a surface water with a classification in the Classification and Numeric Standards Regulation for each of the seven river basins in Colorado. Classifications for each segment within the river basin can be found in the numeric and standards table for each basin regulation.
- **Control measures:** are any best management practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.
- **Potable Water:** means 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.

Low Risk Discharge Criteria

This guidance is applicable to point source discharges that meet the following criteria and that meet the conditions listed in the next section. See the Alternative Disposal Options section for guidance on addressing water not meeting these criteria.

- The discharge shall be of potable water from a potable water distribution system, including tanks and storage facilities that are part of that system. This includes lines supplying potable source water to other systems, not separated by a backflow preventer, where free mixing with the potable system occurs (e.g. fire suppression lines, irrigation lines, etc.). A system has been "maintained for potable water distribution use" when it will be or is currently delivering or storing potable water (i.e. existing systems).

Conditions

The following conditions must be followed by anyone discharging potable water. See the Alternative Disposal Options section for guidance on addressing water not meeting these conditions.

- **Exclusion of Process Discharges:** With the exception of hydrostatic testing of potable water distribution systems, the potable water shall not be used in any additional processes. Processes include, but are not limited to, any type of washing, heat exchange, manufacturing, or hydrostatic testing of pipelines not associated with treated water distribution systems.

- **Requirement for Removal of Chlorine:** If the discharge is directly to a state surface water (any stream, creek, gully, whether dry or flowing), it must not contain any residual chlorine in excess of 0.011 mg/L. The operator is responsible for determining what is necessary for removing chlorine from the discharge. If the discharge is to a ditch, chlorine content may be limited by the owner of the ditch. However, if the ditch returns flow to classified state surface waters, it must not contain residual chlorine in excess of 0.011 mg/L at the point where it discharges to the classified state surface water. It is recommended that if an operator is unsure of the status of the receiving water for a discharge in accordance with this guidance, that they assume a receiving water is a classified state surface water and therefore subject to the 0.011 mg/L chlorine limitation.

- **Exclusion of Discharges with Cleaning Materials and Added Chemicals:** The addition of cleaning materials or chemicals to the potable water source water or discharge is not allowed under this guidance, except for additional chlorine and dechlorination chemicals meeting the conditions below.
  - Additional chlorine may be added to the potable water source for the purposes of maintaining the potable water distribution system, including the use of super-chlorinated water. Special attention should be paid to the selection and use of control measures implemented for dechlorinating super-chlorinated waters.
  - Dechlorination chemicals may be added to the discharge for the purposes of removing residual chlorine and in accordance with the manufacturer's label.

- **Controlling Erosions:** The discharge shall not cause erosion of a land surface that could cause pollution of the receiving water. Signs of visible erosion that have the potential to cause pollution without downstream controls measures implemented include the formation of rills or gullies on the land surface. Energy dissipation devices designed to protect downstream areas from erosion by reducing velocity of flow (such as hose attachments and erosion controls), may be necessary to prevent erosion.

- **Limiting Solids in Discharge:** The discharge shall not contain solid materials in concentrations that can settle to form bottom deposits detrimental to the beneficial uses of the state waters or form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses.

- **Additional Requirements and Property Rights:**
  - All discharges must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts, ditch owners, and other local agencies regarding any discharges to storm drain systems, conveyances, ditches or other water courses under their jurisdiction.
  - The guidance included in this document in no way reduces the existing authority of the owner of a storm sewer, ditch owner, or other local agency, from prohibiting or placing additional conditions on the discharge.

Implementation of Control Measures

Control measures should be implemented as necessary to meet the conditions above, by anyone discharging in accordance with this guidance. The following control measures have been developed by the division to help ensure that the discharge will not negatively affect water quality. When implementing control measures to meet the criteria and conditions of this guidance may not be practical, see the Alternative Disposal Options section for additional solutions.

- **Discharges to the Ground:** For discharge to the ground, the water should not cause any toxicity to vegetation. When discharging, allow the water to drain slowly so that it soaks into the ground as much as possible.

- **Chlorine:**
  - **Discharge to the Ground instead of Dechlorination:** The conditions for removing chlorine are not applicable when a discharge is to the ground and does not result in water reaching a state surface water. This option should be considered as an alternative to dechlorination.
  - **Dechlorination:** Potable water is expected to contain chlorine at concentrations greater than the 0.011 mg/L chlorine limitation, and therefore removal of residual chlorine must be done for any direct discharge to state surface waters, or for any discharge to a storm sewer or conveyance where the chlorine will not dissipate to below the 0.011 mg/L limitation prior to reaching a state surface water. Dechlorination, if necessary, may be achieved by allowing water to stand uncovered until no chlorine is detected; ensuring dechlorination occurs between the location it is released from the potable water system but prior to reaching the classified state surface water; or by using a portable dechlorinator.
  - **Additional Control Measures for Chemical Dechlorination:** Many portable dechlorinators rely on the addition of chemicals to remove chlorine from the discharge. All chemical additions must be in

accordance with the manufacturer's specifications. When using chemicals in the dechlorination process, the operator must ensure the following: that proper quantities and rates are used, based on the concentration of chlorine; that adequate mixing occurs; and that enough time is allowed prior to flow reaching a surface water for the dechlorination chemicals to react with the chlorine in the water. In cases where the discharge of water that had been super-chlorinated will occur, operators should allow additional time for the chlorine to dissipate.

- **Determining if Chlorine Concentration is below 0.011 mg/L:** It is the operators' responsibility to ensure that adequate processes are followed to meet the 0.011 mg/L chlorine limitation prior to discharge to a classified state surface water. It is not required that an EPA approved test method be used to make this determination.
  - **Discharge Testing:** There are a variety of methods to test for chlorine in the field, but the operator should ensure that the method selected is capable of detecting total residual chlorine down to the 0.011 mg/L limitation. For many methods, it will be necessary to have a test result indicating no (0 mg/L) residual chlorine to ensure that this limitation is met. A common and affordable test method is using a "color-wheel test kit" available from a variety of suppliers of chemical testing/analysis equipment. It is highly recommended that analysis occur for all super-chlorinated discharges.
  - **Discharging without Testing:** In some cases, it may be possible for an operator to make a determination that the chlorine concentration in a discharge is below 0.011 mg/L without analysis. This may be based on a determination that the given hold time or travel time to a classified state water, based on other discharge-specific variables, will adequately reduce chlorine levels to result in the chlorine limitation being met. It is the operator's responsibility to ensure they understand the variables associated with a specific discharge to ensure that the chlorine limitation has been met.

❖ **Pollutants Picked Up After Release:** The discharge should be conducted to minimize the potential to pick up additional pollutants following release from the potable water distribution systems and prior to discharge to a water of the state.

- The discharge should be conducted to minimize the potential to pick up additional suspended solids and to control erosion. It is understood that minimal suspension of sediment is inherent to any water running across soils. However potential water quality impacts should be minimized through practices such as diffusing flows and avoiding flows across bare soils.
- The discharge should be conducted to minimize the potential that it will contact petroleum products/waste, and avoid picking up any oil and grease. When possible, an absorbent oil pad, boom or similar device should be used to eliminate oil from the discharge. A visible sheen must not be evident in the discharge.

❖ **Preparing and Installing Components:** When installing new pipe, fittings and appurtenances into a potable water distribution system, the components should be prepared and maintained in a way to minimize the potential for contribution of pollutants to discharges covered under this guidance.

- All pipe, fittings, and other appurtenances associated with the discharge should meet industry standards for cleanliness for a public water. Examples of standard operating procedures include, but are not limited to, those found in ANSI/AWWA Standard C600-10, (*Installation of Ductile-Iron Mains and Their Appurtenances)*, or any other applicable standard operating procedures that reflect industry standards of cleanliness. When it is necessary to remove debris, foreign material or other gross contamination from components prior to installation, wastewater generated from such activities may not be covered under this guidance. Such activity should occur at a location that allows for generated wastewater to be sent to the sanitary sewer with permission of the local wastewater treatment facility. Such wastewater could also be otherwise collected and disposed of.
- Practices should be implemented during transport, storage, installation, and maintenance to minimize introduction of contaminants to pipe, fittings, and other appurtenances that could contribute pollutants to discharges.

- **Removing Pollutants:** Control measures for filtering or settling suspended solids and other debris should be used to remove solids or other debris that have either been picked up after discharge or that originated from within the potable water system. Examples of suspended solid removal practices include but are not limited to, check dams and filter bags. As a final measure downstream from additional control measures, inlet protection can be used to provide some additional removal and to allow for redundancy. Pollutant removal control measures should be used and maintained in accordance with the manufacturers' specifications.

Alternative Disposal Options

Water that does not meet the criteria of this guidance or that cannot be discharged in a manner that meets the conditions of this guidance must be either authorized by a CDPS discharge permit issued by the division, or disposed of through an alternative means. Because the water sources addressed in this guidance are not covered by an existing general permit, it is expected that obtaining a CDPS permit will not be a practical solution for most discharges.

Water not meeting the criteria and conditions of this guidance may be sent to the sanitary sewer with permission of the local wastewater treatment facility or otherwise collected and disposed. If discharge is to the sanitary sewer, contact the local wastewater treatment facility prior to discharge. System owners may grant blanket authorization to discharge to their systems. This must be done to ensure that the facility is able to accept the discharge. Not all facilities are able to accept such discharges. Note that additional restrictions or local guidelines may apply.

If the waste is collected for disposal, it may be hauled off site for disposal at a facility that is authorized to discharge the water through an existing CDPS permit or in accordance with disposal requirements administered through the Colorado Hazardous Materials and Waste Management Division.

Alternatively the water may be land applied in a way that results in complete evapotranspiration. This will likely only be an option when the quantities of water are small.