

## “Strawman”

# Draft Conceptual Approach to Address Wet Weather Bypasses Within Wastewater Treatment Plants

### Introduction:

A significant number of municipalities in Missouri have situations where high peak influent flows during wet weather events exceed the treatment capacity of existing secondary treatment units. In these situations, a portion of the wet weather flows are given primary treatment and blended with the treatment facility effluent or discharged directly from the primary treatment units. Blending is generally a diversion of peak wet-weather flows at POTWs around biological treatment units and combining effluent from all processes prior to discharge from a permitted outfall. Facilities that blend typically are able to meet their effluent limits.

The federal regulation defines bypass as an “intentional diversion of waste streams from any portion of a treatment facility” (40 CFR 122.41(m)(1)). Under this regulation bypasses may be allowed provided that a “no feasible alternative” analysis is conducted. A number of wastewater treatment plants in Missouri are designed to blend. Blending was recognized and authorized in the NPDES permits for the last two decades or more until recently the Department received an interim objection from EPA.

This guidance recognizes that the bypass of secondary treatment during wet weather events must be consistent with 40CFR 122.41(m). Under section 122.41(m)(4)(ii), the Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that the bypass will meet the criteria listed in subsection (m)(4)(i). Permit renewals currently contain deauthorization language for blending. In accordance with 10CSR20-6.010(9), an operating permit cannot be issued if EPA has objected to issuance of the proposed permit.

### The intent of the Guidance:

This guidance will only address bypassing secondary treatment at facilities serving separate sanitary sewer systems. The purpose of this guidance is to inform municipalities of permit requirements for wet weather flows and to provide option to ensure their treatment facilities are in compliance with federal requirements.

1. Construction permits shall not be issued for systems that bypass secondary treatment, unless the permittee provides an approvable no feasible alternative analysis showing that the criteria of 40CFR 122.41(m)(4)(i) is met. Facility may

- utilize no feasible alternative approach outlined below. The approach requires a rigorous analysis of the wastewater system, including alternatives to a bypass of secondary treatment.
2. Treatment facilities that directly discharge from a peak flow clarifier are no longer authorized to discharge per state regulation 10 CSR20-7.015. Previously, these treatment facilities were renewed with permit limits of 45 mg/l BOD and 45 mg/l TSS. At a minimum, secondary treatment permit limits of 30 mg/l BOD and 30 mg/l TSS, and the 85% removal requirement will be placed in all renewals. Facilities that are currently continuing to discharge from their peak flow clarifiers may apply for a Voluntary Compliance Agreement (VCA).
  3. Treatment facilities that currently blend or mix can no longer be authorized per federal regulation, section 122.41(m)(4)(i). In accordance with 10 CSR20-6.010(9), an operating permit cannot be issued if EPA has objected to issuance of the proposed permit. Below are four potential options that can be examined by treatment facilities that blend:
    - a. A facility may submit a no feasible analysis showing that there is no other alternative to bypassing secondary treatment during wet weather flows,
    - b. The Department may offer VCAs to communities that currently blend, provided some basic conditions are met,
    - c. A facility may rely on an enforcement discretion policy (to be developed by the department) for blending for certain storm water events (example 25 year/24 hour storm event or x inches of precipitation over 24 hours), or
    - d. A facility may demonstrate that BOD and TSS treatment efficiencies in accordance with 40 CFR 133.103(d). It is recognized that it may be difficult to meet the 85% removal requirement. The percent removal requirement is calculated separately for each outfall when discharging directly from a peak flow clarifier or high rate treatment. For situations where the diverted flow is blended with the treatment plant effluent, the 85% removal requirement is based only on the combined effluent outfall and the influent, measured at the headworks. Percent removal is based on a 30 day average.
  4. MDNR may take enforcement action against a permittee for unapproved bypasses, unless:
    - a. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and
    - c. The permittee submitted required notices.

5. The feasibility report must be reviewed upon each permit renewal. Upon permit renewal, the permittee will need to resubmit the feasibility report or a revised feasibility report if conditions have changed when approval of a bypass is desired.

No feasible Alternative required elements

MDNR will review feasibility reports and determine if the conditions of 40 CFR 122.41(m)(4) have been met. It is anticipated that all feasibility reports have to propose improvements or actions that comply with 40 CFR 122.41 (m)(4) .

MDNR has no specific regulations on feasibility studies to meet the requirements of 40 CFR 122.41 (m)(4). It is suggested that the following elements be used in the preparation of feasibility reports to assure compliance with Federal regulations.

1. The goal of a feasibility study is ensure the full utilization of available secondary treatment. Facility plan should include an evaluation of other cost effective technologies for peak wet weather treatment/diversion treatment, including but not limited to supplemental biological, physical, and chemical treatments. In other words, a final determination must show that there are no other feasible alternatives to a bypass of secondary treatment. The conclusion does not have to show complete elimination of the bypass but only the feasible alternatives that will minimize bypassing and, when feasible, elimination of the anticipated bypasses. Cost effectiveness will be based on 2% medium household income as a basis for review of the alternatives.
2. Most bypasses can be eliminated over time. An Inflow/Infiltration (I/I) reduction Plan shall be developed and submitted to approval by the Department. The plan should provide an evaluation of the extent to which the permittee is maximizing I/I reduction for utility, satellite system and/or expansion of legal authority (private property)
3. Authorized wet weather or unanticipated bypasses at the treatment must be reported in the facility's Discharge Monitoring Report.