
NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT

1. INTRODUCTION

The 1972 Federal Water Pollution Control Act [(FWPCA), also referred to as the Clean Water Act (CWA)] prohibits the discharge of any pollutant to waters of the U.S. from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Efforts to improve water quality under the NPDES program have focused traditionally on reducing pollutants in industrial process wastewater discharges and from municipal sewage treatment plants. Past efforts to address storm water discharges, in particular through the NPDES program, have generally been limited to certain industrial categories, using effluent limitations for storm water as a permit condition.

Recognizing the need for more comprehensive control of storm waters discharges, Congress amended the CWA in 1987 and established a two-phase program. In Phase I, Congress required the U.S. Environmental Protection Agency (EPA) to establish NPDES requirements for certain classes of storm water discharges.

- A storm water discharge for which a permit has been issued prior to February 4, 1987
- A storm water discharge associated with industrial activity
- A storm water discharge from a municipal separate storm sewer system serving a population of 250,000 or more (large system)
- A storm water discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000 (medium system)
- A discharge for which the Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

To implement these requirements, EPA published on November 16, 1990 (55 Fed. Reg. 47990), permit application requirements that include storm water sampling. EPA and the States will subsequently issue NPDES storm water permits based on these applications, and many of these permits will require storm water sampling. Congress intended for EPA to address all other point source discharges of storm water in Phase II of the program.

1.1 PURPOSE OF THIS MANUAL

This manual is for operators of facilities that discharge storm water associated with industrial activity and operators of large and medium municipal separate storm sewer systems. Storm water sampling is sometimes difficult due to the unpredictability of storm events and the variable nature of storm water discharges. This manual is primarily designed to assist operators/owners in planning for and fulfilling the NPDES storm water discharge sampling requirements for permit applications as well as for other storm water sampling needs.

It is assumed that applicants already have a basic understanding of the storm water permit application requirements. This document is designed to supplement existing storm water application guidance by focusing on the technical aspects of sampling. Since many industrial storm water permits and all municipal storm water permits will require regular storm water sampling, many of the concepts in this guidance may be applicable to sampling requirements contained in NPDES storm water permits.

The information in this manual pertains specifically to individual industrial storm water applications, group storm water applications (Part 2), and municipal Part 2 storm water permit applications for storm water discharges. For information on other storm water application requirements for industrial facilities and large and medium municipal separate storm sewer systems, see EPA's Guidance Manual for the Preparation of NPDES Permit Applications for Storm Water Discharges Associated with Industrial Activity (EPA-505/8-91-002, NTIS # PB-92-199058, April 1991), and EPA's Guidance Manual for the Preparation of Part 1 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (EPA-505/8-91-003A, NTIS # PB-92-114578, April 1991), respectively. These manuals can be requested by calling the National Technical Information Service (NTIS) [(703) 487-4650]. Additional background documents for further information are listed in Technical Appendix D.

1.2 ORGANIZATION OF THIS MANUAL

This manual explains the basic requirements of storm water sampling and provides procedural guidance on sampling for permit applications. Chapter 2 discusses background information (i.e., a summary of permit application requirements, who must sample, when and where to sample, and staffing considerations). Chapter 3 presents the fundamentals of sampling (i.e., types of sampling, obtaining flow data, handling samples, and sending them to the laboratory). Chapter 4 presents analytical considerations, including the storm water pollutants that must be analyzed under the regulations. Chapter 5 discusses

regulatory flexibility with respect to storm water sampling, and Chapter 6 includes health and safety considerations.

Technical Appendices provide information as follows:

- Technical Appendix A—Forms 2F and 1
- Technical Appendix B—NOAA Weather Radio Information
- Technical Appendix C—Required Containers, Preservation Techniques, Holding Times and 40 Code of Federal Regulations (CFR) Part 136
- Technical Appendix D—References
- Technical Appendix E—Glossary
- Technical Appendix F—Acronyms.