What is an O&M Manual?

An operations and maintenance (O&M) manual is a reference document that contains all of the information needed by an operator to properly operate and maintain a wastewater treatment facility (WWTF). The O&M manual includes:

- an overview and description of all processes and equipment
- everyday and emergency operating procedures
- a preventative maintenance program
- staffing requirements
- monitoring, recording keeping, and reporting requirements

Why Are O&M Manuals Important?

O&M Manuals

- Teach new operators who are unfamiliar with the WWTF
- Allow operators to quickly respond to emergencies and remedy time-sensitive equipment malfunctions

Why is O&M Manual

- Failure to meet operators’ needs

Who Writes & Uses O&M Manuals?

The engineers who write O&M manuals must contend with the challenge of communicating information to three distinct audiences.

- Engineering Consultants (Authors)
- Operator (Primary Audience)
- Permittee (Secondary Audience)

O&M Manuals Go Unused

Many O&M manuals go unused by operators because they are inaccurate, overly general, highly technical, and poorly organized. Unfortunately, guidance on preparing O&M manuals from the Massachusetts Department of Environmental Protection (MassDEP) fails to help authors negotiate problems common to O&M manuals.

Many facility operators find their operations and maintenance (O&M) manuals either outdated, inaccurate, too technical, or difficult to understand. – Mike Tidwell, How to Produce Effective Operations and Maintenance Manuals

“The O&M manual isn’t stained or dog-eared because no one uses it.” – Karla Sangrey, P.E., Engineer-Director/Treasurer at UBWPAD

“Past studies have shown O&M manuals often to be inadequate for operating personnel.” – Minnesota Pollution Control Agency, Wastewater Treatment Facility Operation and Maintenance O&M Manual Guidelines

How O&M Manuals Fail to Meet Operators’ Needs

Common Deficiencies of O&M Manuals

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Revisioning MassDEP’s Insufficient O&M Manual Guidelines to Aid Authors

Within MassDEP’s Guidelines for the Design, Construction, Operation, and Maintenance of Small Wastewater Treatment Facilities with Land Disposal is a nine-page section called “X: Operation and Maintenance Plan.” It is the only guidance that pertains to O&M manuals for WWTFs in Massachusetts other than the regulations themselves. I revised MassDEP’s guidelines to serve as a more useful reference for the authors of O&M manuals.

MassDEP’s Insufficient O&M Manual Guidelines:

1. Are purely content oriented
2. Do not encourage authors to target operators as the primary audience
3. Contain little discussion about adequate level of detail
4. Provide little organizational guidance
5. Omit discussion of appropriate style or diction

Problem: Authors fail to cater O&M manuals to the operators’ needs.

Revision: Discusses each audience, how they use the manual, and why the manual must be oriented toward operators.

Problem: O&M manuals are not revised to reflect how the plant actually operates.

Revision: Emphasizes the importance of continuously updating the manual.

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