

Report Writing

*for Environmental Engineers
and Scientists*

James G. Smith and P. Arne Vesilind



LAKESHORE PRESS



Association of Environmental Engineering Professors

REPORT WRITING

FOR
ENVIRONMENTAL
ENGINEERS
AND
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James G. Smith, P.E., D.E.E.

and

P. Aarne Vesilind, Ph.D., P.E., D.E.E.

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The original version of this book was written by the senior author when he was employed by Brown and Caldwell, Engineers, as a guide to writing engineering reports. That version was used for many years as a supplemental text in environmental engineering courses at Duke University. The valuable suggestions by both professional colleagues and engineering students over the years for improving this text are all appreciated.

This book is published with the cooperation of the Association of Environmental Engineering Professors (AEEP) and the advice and comments by the officers and members of AEEP is appreciated.

J.G.S.
P.A.V.

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PREFACE

Well written technical reports have style -- style that enhances the transmission of scientific and technical material with the least opportunity for miscommunication. Just as the legal profession has developed a vocabulary and style that prevents misinterpretation, so do well written technical reports use a style that most effectively and efficiently communicates the information. But legal briefs are written as if the legal profession consciously wants to prevent untrained people from understanding the information. By contrast, environmental science and engineering reports must transmit information accurately but at the same time be understood by the general public.

The objective of this book is to assist the environmental engineer and scientist in the preparation of technical reports with style -- the *correct* style -- style that allows the report to be readable by the public while maintaining scientific and technical accuracy.

Although poor engineering and science cannot be masked by a good presentation, the best of technical efforts is lost if the presentation distracts or confuses a reader with poor writing, sloppy organization, or inconsistent format. Well written and presented reports reflect high quality engineering or scientific efforts.

This manual can serve as a primer for the neophyte, a reference for the experienced report writer, or a useful guide for support personnel. It may also be used for quick reference on specific language usage problems such as (a) capitalization and punctuation, (b) reference guidelines, (c) standard abbreviations, (d) proofreader's marks, and (e) glossary of common terms used in environmental science and engineering.

A word about what this book is not: It is not a guide to word processing. The science of computerized writing has seen incredible development in the last few decades, and there is no doubt that it will continue to advance. Any book that attempts to describe how to use a word processing language or system is obsolete even before it is published. But good language usage, and careful presentation of scientific and technical information will never go out of date. No matter what advantages the latest "gee-whiz" system for work processing might have, it will still be necessary for the engineers and scientists to organize the information and to put the words on the page (or screen). It is the development of this skill that this book addresses.

Writing reports is very much like learning to ride a bicycle. We can tell you the rules:

- face the handlebars;
- place feet on the pedals and push on the one in front;
- keep your eyes open;

and so on. But no amount of rule-reading or rule-memorizing will help you learn bike riding. Although you can learn something by watching others ride bikes, in the end you still have to try it yourself. And you will have to fall down a few times. But once you've "got it", you'll ride without thinking about any of the rules. Bike riding will be automatic.

Report writing can also become automatic; but, in the beginning, you have to learn a few basics. Reading good reports will help immensely, but just like bike riding, eventually you have to do it yourself. The purpose of this manual is to give you a "leg up" on learning to write good reports. It will not teach you to do so, because only you will greatly hasten the day when your report writing will be automatic. You will not only be able to write good reports, but you'll be able to spot bad ones before they leave your office, and help others attain your skill level.