

**Guide to Requirements for Research  
Reports Submitted to the National  
Homeland Security Research Center**  
POLICY AND GUIDANCE





# **Guide to Requirements for Research Reports**

## **POLICY AND GUIDANCE**

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**CINCINNATI, OHIO 45268**



# Guide to Requirements for Research Reports Submitted to the National Homeland Security Research Center

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## *Policy and Guidance*

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## EPA Style Guidelines

EPA's [Communication Product Standards Stylebook](#) establishes guidelines for many kinds of written materials. For word usage, grammar, and punctuation questions that are not covered in the Agency's stylebook, EPA uses the most recent edition Associated Press's *AP Stylebook and Briefing on Media Law*, published by Basic Books, Philadelphia, Pennsylvania.

For issues of information organization, questions about units of measure, verifying proper nomenclature, or citing non-standard reference material, EPA's National Homeland Security Research Center (NHSRC) uses the most recent edition of *The ACS Style Guide: Effective Communication of Scientific Information*, published by the American Chemical Society, Washington, D.C. For questions not addressed by ACS, refer to the most recent edition of *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers*, published by the Council of Science Editors, Inc., Wheat Ridge, Colorado.

## Research Reports Requirements

Reports should be submitted to NHSRC as Microsoft® Office Word documents and meet the editorial requirements presented in this guide. Figure 1 shows the recommended outline of report contents.

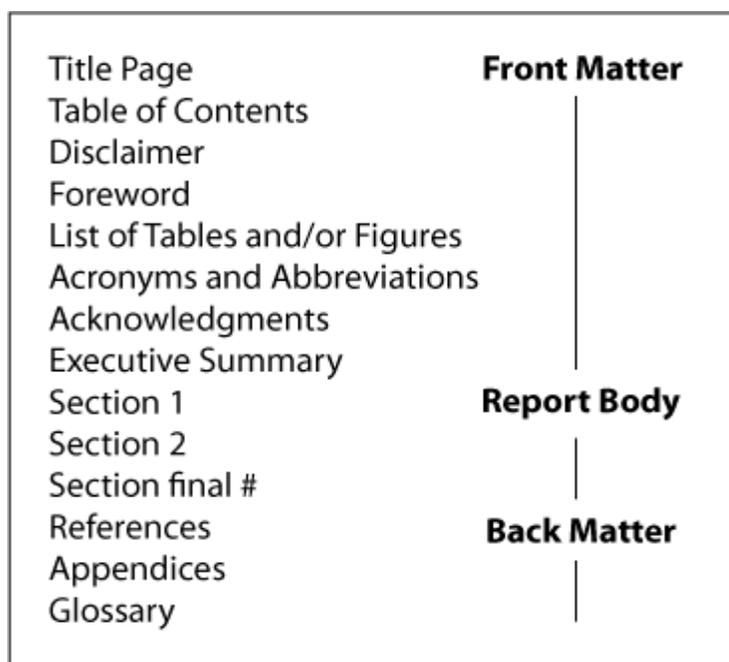


Figure 1. Recommended outline for research reports.

## Front Matter

Front matter includes the [Title Page](#), [table of contents](#), [disclaimer](#), [list of tables and/or figures](#), [foreword](#), [acronyms and abbreviations](#), [acknowledgments](#), and the [executive summary](#). Figure 2 shows how a typical table of contents is laid out.

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**Figure 2. Sample table of contents.**

### Title Page

Front matter should be numbered consecutively with roman numerals; the title page is considered page “i”, but do not put the number on the page.

Center the title on the page and follow standard capitalization rules; for example, “Report on Science,” not “REPORT ON SCIENCE.” Prepositions of four or more letters should be capitalized (for example, “with,” “during,” “from,” and “before”).

The names of individuals should not appear on the title page. The format for the author is: “United States Environmental Protection Agency, Cincinnati, Ohio, 45268.” For multi-agency reports, all agencies should be listed as authors. Although the contracting firm (with the contract number) can be cited on the title page, this practice is not encouraged.

Refer to EPA’s [Communication Product Standards Stylebook](#) for more information.

## Disclaimers

### **Disclaimers for draft and final reports:**

Draft documents should have "*Draft document – do not quote or cite*" as a disclaimer.

### **Disclaimer for a draft report:**

*This text is a draft that has not been reviewed for technical accuracy or adherence to EPA policy; do not quote or cite.*

### **Disclaimer for a final report:**

The disclaimer is required. The name, address and other information for an EPA contact or project officer may be listed either on the disclaimer or acknowledgment page. If an EPA contact or project officer is listed in a multi-agency report, other agencies should be invited to list a contact as well. Also, technical contributors, unpaid reviewers or consultants and their affiliations may be named. (See also Acknowledgments.)

When company names, trade or service names, product names or commercial materials are mentioned, use this disclaimer in the final report:

The U.S. Environmental Protection Agency (EPA) through its Office of Research and Development (funded and managed) or (partially funded and collaborated in) the research described herein under (contract number) or (assistance agreement number) to (contracting company name). It has been reviewed by the Agency but does not necessarily reflect the Agency's views. No official endorsement should be inferred. EPA does not endorse the purchase or sale of any commercial products or services.

This is a general disclaimer to be used in final reports that do not include commercial references:

The U.S. Environmental Protection Agency through its Office of Research and Development (funded and managed) or (partially funded and collaborated in) the research described here under (contract number) or (assistance agreement number) to (contracting company name). It has been subjected to the Agency's review and has been approved for publication. Note that approval does not signify that the contents necessarily reflect the views of the Agency.

**Student Contractors:** A Student Services Contractor is contracting company and should be listed name and by his or her contract number.

**Foreword.** This required statement about the research is signed by the center director. It discusses why the work was undertaken or is used to establish the context of the research.

**Lists of Figures or Tables.** Include a list of figures (maps, charts, plates, or illustrations) and a list of tables. If the lists are short, they can be on the same page.

**Acronyms and Abbreviations.** The report needs to present information clearly and concisely. Abbreviations and acronyms can either help or hinder.

All reports should have a list of acronyms and abbreviations that are used in the report. Acronyms and abbreviations should be given in parentheses following the first use of the term in the text.

In the report body, treat the abbreviation as if it were the first use, regardless of whether or not you defined it and used it in the front matter. Do not use the same abbreviation for different spelled-out words.

It helps the reader if you periodically spell out a word or phrase. Avoid using abbreviations or acronyms in titles of reports or the table of contents.

**Acknowledgments.** Acknowledgments are optional. Guidelines for acknowledgments can be found under "Bylines and Staff Credits," and "Self-aggrandizement" in EPA's [Communication Product Standards Stylebook](#). Generally, acknowledgments should be limited to peer reviewers and researchers or organizations that contributed in a major way.

If an individual researcher or principal investigator is named for intellectual contributions, then all other substantial intellectual contributors should also be individually named. This includes work group members, contractors, and Student Services Contractors.

List technical contributors, unpaid reviewers, or consultants in the disclaimer.

**Executive Summary.** Summaries should have between 500 and 1,500 words and be understandable to a general audience. The summary should include enough detail so that it can stand on its own: include a brief description of the project, the key points of the research, findings or conclusions, and recommendations for future work, if that is relevant. Keep in mind that this might be the only portion of the report that is widely read.

## Report Body

Along with other federal agencies and departments, EPA must use [plain language](#) in all of its communications with the general public. Reports can benefit from careful, clear writing that follows plain language principles such as:

- Avoid unnecessary words
- Write sentences in the active voice
- Keep most sentences between 15 to 20 words
- Average 7-12 lines in a paragraph
- Avoid wordy expressions; for example, use “now” instead of “at the present time”; “area” instead of “total area”; and “larger” rather than “larger in size.”

**Text Sections.** The first section in the report body is generally an introduction. The first section can also be used to define the research approach, explain exceptions and exclusions, or identify particular issues that the reader should keep in mind.

EPA clarifies some common word usage issues. For issues of intellectual property, consistency, and identifying equipment and materials, see the [Editorial Checklist](#).

In the report body:

- Avoid repeating material in different sections. If some material needs to be referred to repeatedly, consider using a table or adding the material to an attachment or an appendix. Pages should be numbered consecutively with Arabic numerals.
- Be consistent in the use of numbers, abbreviations, capitalization, spelling, and hyphenation. Spell out numbers from one to nine, and use numerals for numbers over 10. Spell out words and numbers if they appear at the beginning of a sentence. Use numerals to name the items in a series: for example, “Samples 1 to 5.”
- Standardize scientific notation and use standard systematic nomenclature if trivial nomenclature would be ambiguous. Check the [International System of Units and other standard-setting organizations](#) for details on usage and format.
- Generally, use metric units; however, if it is industry practice to use English standard units, put the conversion in parentheses or include a conversion table. Avoid mixing units in a document; however, if industry practice is to use some English standard units and some metric, include a brief mention of that either as a footnote or in a longer explanatory section.

In reports that summarize the results of testing or evaluation of equipment or methods, a list of the tested items and the manufacturers’ names and locations (city, state or city, country) in a table or an appendix is helpful.

**Graphics.** Reference all graphics in the text and place them in the document as close as possible to their mention, but not before they are mentioned. When a report contains only a few pages of text and many graphics, place the graphics in numerical order following the text. Graphics submitted to EPA must be at least 300 dots per inch and compatible with Adobe Illustrator® (.eps) or Adobe Photoshop® (.tiff).

**Figures.** Be consistent with figures: fonts, shading, and line widths should be the same in each figure. Make labels within the figure clearly legible. The goal is to make figures easily understood.

Spell out "Figure" in the text and in captions. Put captions in boldface type. Words in figure captions should be capitalized, or not, as they would be in a sentence. Put the caption flush left under the figure and close it with a period.

**Tables.** Be consistent with tables: fonts, shading, and line widths should be the same in each table. Use tables to present data or text material in a clear, straightforward manner. Organize tables for easy reading. Use symbols (rather than letters or numbers) for table footnotes.

Spell out "Table" in the text and captions. Put captions in boldface type. Words in table captions should be capitalized as if they were in a title. Put the caption flush left above the table and do not use a closing period.

**References.** Reference managing software can be helpful with standardizing large numbers of citations, but check with the NHSRC before using it in a report.

List all references at the end of the report, not at the end of sections, or only in footnotes to tables and figures. References must be consistent and complete, regardless of how they are formatted. Use standard abbreviations for journal titles or spell the names out, but don't do both. An online source for journal titles and their standard abbreviations is [Genamics™ JournalSeek](#) [EXIT Disclaimer](#).

Follow either an author-date format or numerical reference citations in the text and in the bibliography. *The ACS Style Guide* has a chapter on references that deals with a variety of formats and types of reference material that might be cited. The [Chemistry Library](#) at the University of Wisconsin-Madison offers examples from *The ACS Style Guide* on how to format references for different types of bibliographic material.

Verify all references! Incorrect or incomplete references are a common error in technical writing. Do not cut and paste citations. Do not include citations for material that has not been reviewed first-hand.

Check legal references: for example, public laws and amendments, the *Code of Federal Regulations*, and the *Federal Register*. Check for any relevant updates. [GPO Access](#) links to legal documents from all branches of the federal government.

## Back Matter

**Appendices.** Appendices contain supplementary information, original data, or quoted matter that is too long for the body of the report.

**Glossary.** A glossary is helpful if a report contains specialized information that uses a controlled or specialized vocabulary. Identifying formulas, standard values, or specialized units of measure can also be helpful to the reader.



## Word Usage

EPA's [\*Communication Product Standards Stylebook\*](#) addresses word usage and grammar issues. The Associated Press's *AP Stylebook and Briefing on Media Law* should be used for questions not answered by the EPA stylebook.

**Affect/effect** - "Affect" is normally a verb. "Effect" is normally a noun. For example, "Acid rain affects trees." "Acid rain's damaging effects include weakening trees." The only use of "effect" as a verb is to mean "to cause" or "to bring about" as in "EPA will effect change through a new program." It is usually better to say, "accomplish," "perform," "produce," "generate," or "cause."

**Agency** - Capitalized when it refers to EPA.

**By-product** - Hyphenated.

**Cleanup** - The noun and adjective forms are "cleanup"; the verb form is "clean up." Do not use "clean-up." For example, "The cleanup will take six weeks." "Workers will clean up the site in six weeks." "The cleanup work will take six weeks."

**Comprise/compose** - "Comprise" means to encompass; specifically, encompass that which is already assembled. Groups comprise items or individuals or are composed of items or individuals. For example, use, "The community comprises men, women, and children." Or, say, "The community is composed of men, women, and children."

**Dispose** - "To dispose of" means to get rid of something. For example, say, "The on-scene coordinator will dispose of the hazardous material at an approved landfill." Do not say, "They will dispose the hazardous material."

**E-mail** - "E-mail" rather than "email." Also, "e-book," "e-business," and "e-commerce."

**Ground water** - "Ground water" is preferred over "groundwater." Do not use "ground-water."

**Impact** - EPA says: "Impact" as a verb is over-used. Use "affect" or "affected" instead. For example, use "The contamination will affect a large area" instead of "the contamination will impact a large area." "The affected area ..." instead of "the impacted area ..."

**Internet** - Capitalize; on the other hand, "intranet" is normally not capitalized.

**May** – EPA says: Do not use “may” unless it means permission or free choice. “May” should not be used in place of “can,” “might,” “could,” or “would” - no matter how often you see it used that way elsewhere.

**Online** – One word, not hyphenated

**Region, regional** – Capitalize only when referring to a specific EPA regional office: “EPA Region 5 is....”

**Section, article, part** – Not capitalized, even when referring to part of a law or regulation

**State, federal, regional, local, tribal** – Not capitalized unless they begin a sentence or form part of an official title

**Stormwater** – One word, not hyphenated

**That/which** – Do not use “which” in place of “that.”

- “Which” tells something about the subject that is not absolutely necessary. For example, “The project, which is six weeks overdue, is bogged down due to rain.”
- “That” provides necessary definition or restriction: “Let’s review the project that is still with the contractor.”
- “Which” is preceded by a comma; “that” is not.

**Waste** – The term “waste” is plural. Do not add an “s” unless you mean – and must specifically call attention to – different types of wastes. For instance: “hospital waste contains various dangerous items,” but, “solid and liquid wastes must be treated differently.”

**While** – “While” means “at the same time.” It should not be used instead of “although,” “and,” or “but.”

**World Wide Web** – “Web,” “Web site,” “Web page” are capitalized; however, use “webcam,” “webcast,” and “webmaster.”

## ✓ Editorial Checklist

- **Have you indicated trademarks when appropriate?** Reports need to include the proper intellectual property markings. Trademark ownership information can be found on most companies' Web sites. Check a product's technical documentation first, then look under links for "Legal", "Trademarks", or "Intellectual Property."

A database of pending and registered trademarks is available from the [U.S. Patent and Trademark Office](#). Registered trademarks are designated by ®. Unregistered trademarks are designated by ™.

- **Have you obtained permission to use copyrighted material?** Nongovernment photos, illustrations, and Web images need authorization to be reproduced. Credit the artist, photographer, or source of the photograph or illustration. Do not use copyrighted material or any material or photographs from the Internet without written permission.
- **Have you been consistent and accurate?** Verify abbreviations, capitalization, spelling, hyphenation, and the consistent use of numbers in the text and in tables, graphs, figures and other non-text items. Also, check the names of methods, equipment, reagents, instruments, devices, procedures, test kits, bacterial strains, reference materials, and software.
- **Have you standardized scientific notation?** Refer to the [International System of Units and other standard setting organizations](#) for spelling, format, and accepted abbreviations of units.
- **Have you identified non-standard equipment, methods, or materials?** Provide details for methods or materials that are not standard or have been modified. Unless reagents or apparatus are non-standard or not commercially available, simply list what was used: for example, "phosphate buffer." Cite the source for standard methods.

At the first mention of standard equipment and materials used in recommended ways, include the name followed by the model number, manufacturers' name, city, and state in parentheses. Unless it causes confusion, just use the correct name of the apparatus or equipment in the text without accompanying detail. If more details are necessary, create a table or put information in an appendix. Do not use a brand name (or trademarked name) if reagents, laboratory supplies, or other apparatus used are the generic equivalents.

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