

Guidelines for Research Reports Submitted to the Homeland Security Research Program



This guide is subject to change.

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Guidelines for Research Reports Submitted to the Homeland Security Research Program

Stylebook

by

Author

Organization

City, State and Zip Code

Interagency Agreement/Grant/Contract Number (if applicable)

U.S. Environmental Protection Agency Project Officer

Homeland Security Research Program

City, State and Zip Code

Disclaimer

This document is for use by EPA staff, its contractors and its partners in preparing reports for U.S. EPA's National Homeland Security Research Center. It does not represent and should not be construed to represent policy for the U.S. Environmental Protection Agency at large.

Cover Photos: Bureau of Reclamation, Taylor Park Reservoir. (Michael Lackey, Photographer)

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Abbreviations

| | |
|-------|---|
| ACS | American Chemical Society |
| AMWTP | Advanced Mixed Waste Treatment Project |
| AP | Associated Press |
| BNFL | British Nuclear Fuel Ltd. |
| CSE | Council of Science Editors |
| DOE | Department of Energy |
| EIS | environmental impact statement |
| EPA | U.S. Environmental Protection Agency |
| GPO | Government Printing Office |
| HSRP | Homeland Security Research Program |
| ICMJE | International Committee of Medical Journal Editors |
| INEEL | Idaho National Engineering and Environmental Laboratory |
| IMRAD | Introduction, Methods, Results and Discussion |
| MS | Microsoft® |
| NEPA | National Environmental Policy Act |
| OMB | Office of Management and Budget |
| ORD | Office of Research and Development |
| SRA | Society for Risk Analysis |
| STICS | Scientific & Technical Information Clearance System |
| USC | U.S. Code |

Acknowledgments

[This is where the acknowledgments would be placed in the report.]

Executive Summary

This is a summary of the most authoritative guidelines available for producing a report for submission to the U.S. Environmental Protection Agency's Homeland Security Research Program. These guidelines both spell out and model the appropriate layout for a typical Homeland Security Research Program report. All reports submitted should adhere to the editorial guidelines presented here. However, for technical and scientific writing, *function beats form*. The guidelines may be disregarded if that would be necessary to better serve your intended audience.

These guidelines provide information on a host of subjects. The required elements of reports including the covers, executive summary, disclaimer, tables of contents, lists of tables and figures, list of abbreviations, the body of the report and the references are covered. The requirement that Homeland Security Research Program reports list individual authors is also covered. These authorship requirements for reports and other products enhance transparency by identifying who prepares the program's work products. Plain language requirements are discussed; the first rule of plain language is to ***write for your audience***. Jargon, accessibility requirements, copyright and trademark issues, and the nitty-gritty of formatting and word usage are also discussed.

Finally, additional authoritative sources of information on Agency requirements for publications and on the nuts-and-bolts of report writing are provided.

1.0 Summary and Applicability

This is a summary of the most authoritative guidelines available for producing a report for submission to the U.S. Environmental Protection Agency's (EPA's) Homeland Security Research Program (HSRP). These guidelines both spell out and model the appropriate layout for a typical HSRP report. When submitting a report to HSRP, authors should adhere to the editorial guidelines presented here.

That being said, especially for technical and scientific writing, *function beats form*. The most important guideline is spelled out in the *Federal Plain Language Guidelines* (PLAIN 2011); it states that your writing should enable your readers to:

- Find what they need
- Understand what they find
- Use what they find to meet their needs

The editorial guidelines presented here are designed to serve your intended audience of readers. So, for example, these guidelines advise that chemical names should not be capitalized and the numbers one through ten should be spelled out. Nevertheless, in a chemical method it is correct to write "10 mg Manganese" because a method is a set of directions, not a narrative.

The EPA's *Communication Product Standards: Stylebook* (U.S. EPA 2009) establishes Agency guidelines for many kinds of written materials including technical reports and technical briefs. However, the standards are not directly applicable to the design and writing of peer-reviewed journal articles.

For technical and scientific issues, including scientific style, HSRP recommends:

The ACS [American Chemical Society] Style Guide: Effective Communication of Scientific Information (Coghill and Garson 2006)

Scientific Style and Format: The CSE [Council of Science Editors] Manual for Authors, Editors, and Publishers (CSE. 2014. Chicago, Illinois: University of Chicago Press; or CSE 2006)

For general format, HSRP recommends:

The AP Stylebook (Associated Press, AP stylebook online; or Associated Press 2016)

The Chicago Manual of Style (latest edition, Chicago, Illinois: University of Chicago Press)

Finally, the *U.S. Government Printing Office (GPO) Style Manual* (U.S. GPO 2008) is authoritative and covers more obscure issues.

2.0 Parts of a Report

2.1 Report Outline

Like an airplane, a report is an assemblage of parts (Figure 1); if either is going to fly, you will need all the parts in all the right places. Table 1 shows the recommended outline of report contents. Some report formats will be dictated by the end users. For example, laboratory analytical method layouts have often varied from the general report guidelines discussed in this document.

Some sections are required for all reports. All sections of the front matter (except acknowledgments), the main body, and the front and back covers, are required to be included in a final report. For sections that have no content (for example, no abbreviation list), there is no need to include those items. None of the back matter sections are required to be included in a report.

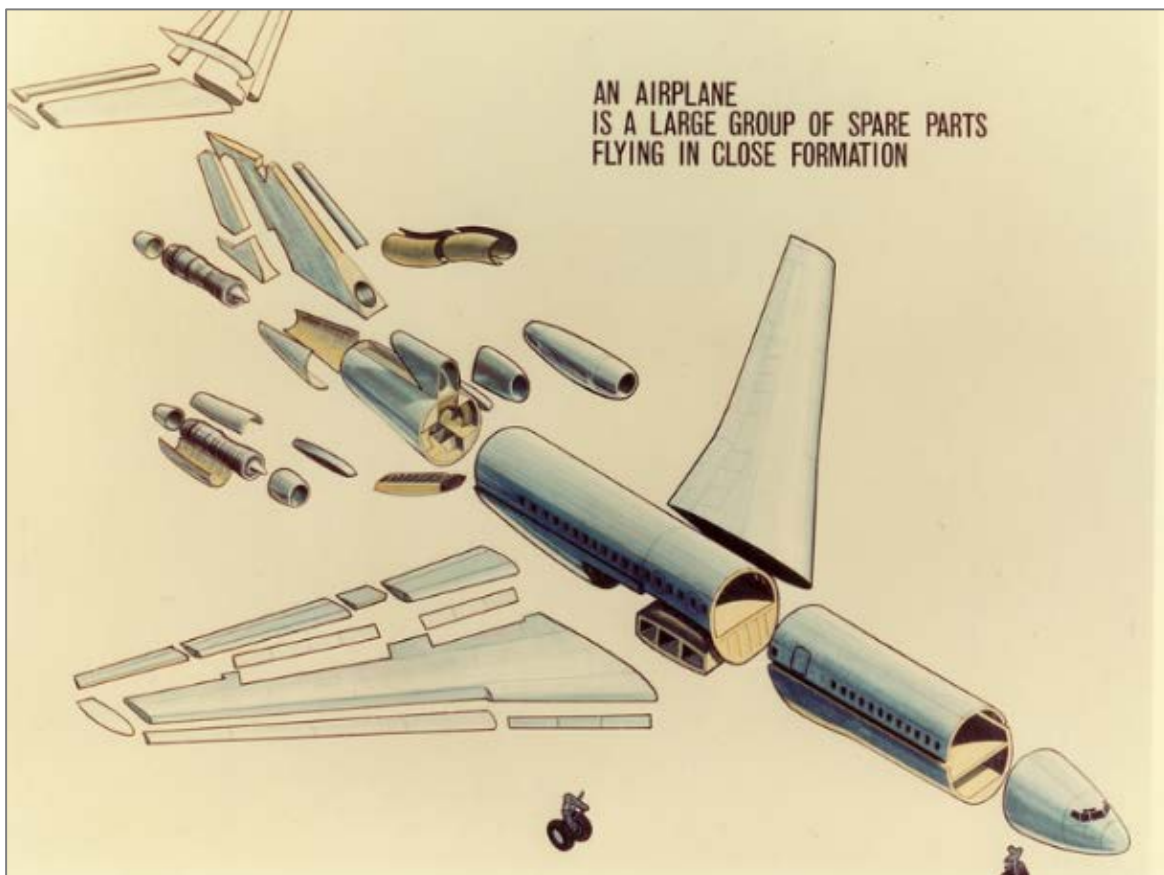


Figure 1. An assemblage of parts.

Table 1. Parts of a Homeland Security Research Program Report

| Part | Section | Required? |
|--------------|-----------------------|------------------|
| Front Cover | | Yes |
| Front Matter | Inside Title Page | Yes |
| | Disclaimer | Yes |
| | Table of Contents | Yes |
| | List of Tables | Yes* |
| | List of Figures | Yes* |
| | List of Abbreviations | Yes* |
| | Acknowledgments | No |
| | Executive Summary | Yes |
| Main Body | Text | Yes |
| | References | Yes* |
| Back Matter | Appendix | No |
| | Glossary | No |
| | Bibliography | No |
| Back Cover | Back Cover | Yes |

*, yes if applicable

2.2 Cover

Once the report has been completed, a formatting team can add a front cover, a blank page after the front cover and a back cover. Principal investigators are encouraged to provide a suitable cover photo to the formatting team. The EPA's *Visual and Products Standards: Graphics Manual* (U.S. EPA 2007) states, "All photos used should comply with health and safety standards required by EPA personnel in the laboratory or field. For example, all lab personnel need to wear safety goggles and gloves." The *Visual and Products Standards: Graphics Manual* also sets out the design elements of the cover, product templates and permitted color palettes for reports.

2.3 Front Matter

Front matter includes the inside title page, disclaimer, table of contents, list of tables and/or figures, abbreviations, acknowledgments and the executive summary. Front matter should be numbered consecutively with lower case Roman numerals. The inside title page is considered page "i," but do not put the number on that page.

2.3.1 Inside Title 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"). Where practical, avoid using abbreviations in the report title. The EPA document number on the cover is automatically generated by EPA's *Scientific & Technical Information Clearance System* (STICS) database.

Individual authors are to be designated on HSRP reports, but not on technical briefs. [For technical briefs, the general contact and technical contact are listed. The individual author should be listed in the metadata.] For guidelines on authorship for all other work products, see section 3.1. Authors must be listed on the inside title page. The EPA project officer may be listed on the inside title page; for multi-agency reports, if EPA's project officer is listed, the interagency agreement project officer should also be listed.

2.3.2 Disclaimer

The disclaimer is required. The language is italicized below to set it apart, but it should not be italicized when inserted into a report.

The name, address and other information for an EPA contact or project officer may be listed either on the disclaimer or the 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.

For additional detailed information on disclaimer issues, please see Appendix A, which is a copy of Office of Research and Development (ORD) policies and procedures provided to EPA staff regarding disclaimers.

Final Reports General Disclaimer

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 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. Any mention of trade names, products, or services does not imply an endorsement by the U.S. Government or EPA. The EPA does not endorse any commercial products, services, or enterprises.

If the report does not contain any tradenames, products or services, the last two sentences of the disclaimer are unnecessary but may be included. If the authorship includes an individual from a contractor, the following statement must be included in the disclaimer:

The contractor role did not include establishing Agency policy.

2.3.3 Table of Contents

Avoid using abbreviations in the table of contents and, by extension, in the titles of the major section headings that will be used to compose the table of contents.

2.3.4 Lists of Tables and/or Figures

Include a list of tables and a list of figures (maps, charts or illustrations) if any tables or figures are part of the report. Each type of list (list of tables, list of maps, list of figures, and so forth) needs to be separate.

2.3.5 List of Abbreviations

All reports should have a list of abbreviations (including acronyms) that are used in the report; the list should only include abbreviations that are used in the report. To keep the list concise and to avoid appearing pedantic, authors should not include commonly known abbreviations (U.S., DNA, LCD), chemical symbols (Pb, Mn, Ag), and common metric measurements (g, ml, °C). Note, however, for scientific and technical publications, English units of measurement must appear in the list of abbreviations. Do not use abbreviations for terms used just a few times in the text.

2.3.6 Acknowledgements

Authors may include a page for acknowledgements in an HSRP report. Due to rules against self-aggrandizement for EPA staff members, acknowledgements are permitted but, according to the *EPA Style Manual* (U.S. EPA 2008) “not thanks, not dedications, gratitude, nor congratulations. The work belongs to EPA and EPA does not use the resources of American taxpayers to publish thanks or congratulations to our employees for doing their work.

Acknowledgements can and in some cases should indicate which EPA staff offices or staff members produced the work.

Acknowledgements are especially helpful in indicating particular reliability of authors and their credentials and providing resources the audience may contact for supplemental information.”

According to EPA’s *Best Practices for Designating Authorship* (U.S. EPA 2016), “contributors who do not meet all authorship criteria should not be listed as authors, but they should be acknowledged.” Such contributors may include trainees (students, postdoctoral fellows and interns), technicians and research assistants, and individuals who are employed by contractors. The acknowledgment should include a brief description of each contributor’s role, if possible. Individuals listed in the acknowledgments



section should be notified before final publication of the work product.

According to EPA's *Best Practices for Designating Authorship*, contributions worthy of acknowledgment can include:

- contract or project management
- supervision
- mentorship
- literature searching
- statistical consultation
- manuscript review
- advice or routine assistance
- provision of materials or space
- financial support
- grammatical or stylistic editing

2.3.7 Executive Summary

The summary is likely to be the most widely read part of any report. Summaries should be 500-1,500 words. The summary should include enough detail so that it can stand on its own. It should 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. The summary may not contain citations to references. Abbreviations should be kept to a minimum.

2.4 Main Body of the Report

2.4.1 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. For work products reporting original research results, the IMRAD (introduction, methods, results and discussion) outline is standard practice (International Committee of Medical Journal Editors [ICMJE] 2015). The summary, "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals" (ICMJE 2016) is widely used by journals. It provides insight into what journal editors expect and what questions they ask as they review material submitted for publication. While technical reports differ from journal articles, the summary provides a framework for the scientific approach that undergirds ORD's scientific and technical work.

2.4.2 References

The list of references should contain only those works cited within the text. The bibliography (section 2.5.3) includes additional works read or consulted as general background material.

The Council of Science Editors (CSE 2006) states that,

An author should never place in a reference list a document that he or she has not seen. The practice of citing documents only on the basis of information from other document has led to the perpetuation of many erroneous references in the

literature ... When it is not possible to see an original document, cite the source of your information on it; do not cite the original assuming that the secondary source is correct.

The following kinds of material should be cited in the text as a reference:

- The source of a significant and original statement
- The source of information not sufficiently familiar so that most readers would know it or be able to find it readily
- The sources of controversial matter and opposing views

Follow either an author-date or numerical reference citation format in the text and in the bibliography. Numerical reference citations should appear in consecutive numerical order within the text. List all references at the end of the report or, for tables and figures, in their footnotes; do not list references at the end of each section or chapter. Include all essential elements of a reference: author(s) (or organization), title, source, identifying numbers, place of publication, publisher, date and pages.

There are some details to be included in a thorough set of references:

- Use standard abbreviations for journal titles or spell the names out, but do not do both. An online source for journal titles and their standard abbreviations is Genamics™ Journal Seek.
- HSRP recommends that for references with many authors, “et al.” should be appended to an abbreviated list of authors. A minimal listing of authors, however, shortchanges readers who would benefit from a full knowledge as to the authorship of the listed references. (Standards for listing multiple authors in the references are variable; for journal articles, check the instructions to authors.)
- Including the issue number for journals is a good practice as some journals start each issue within a volume with page one; any given volume of such a journal could have several sets of pages numbered “36-42.” For scientists trying to obtain the journal article through interlibrary loan, having the correct issue number is essential.

The references document the scholarship that was used in preparing the report, and permit readers to evaluate the scientific foundation for the report and to replicate the work itself. Therefore, when materials are cited, the materials must either be published or be publicly available. If the information is publicly available but not published, the reference must include sufficient information for the reader to obtain the information, whether via a Freedom of Information Act request or a special collection housing the material.

Personal communications are not part of the references. Personal communications should be cited in parentheses in the text. The citation should include the full name of the correspondent (not just initials) and other pertinent information, for example, “(Franklin, Jessica. Letter to author, 1990)” or “(Wells, Jason. Putty Corporation field technician, 2010).” In citing personal communications, it is a good practice to obtain permission from the person to be quoted.

2.5 Back Matter

2.5.1 Appendices

Appendices contain supplementary information, original data or quoted matter that is too long for the body of the report. The page number may continue the numbering of the main body of the text or the

appendices may be numbered with a prefix (e.g., A-1, A-2). All of the appendices should be listed in the “Table of Contents.”

2.5.2 Glossary

Generally, HSRP reports do not include a glossary. If included, it should be placed after the appendices.

2.5.3 Bibliography

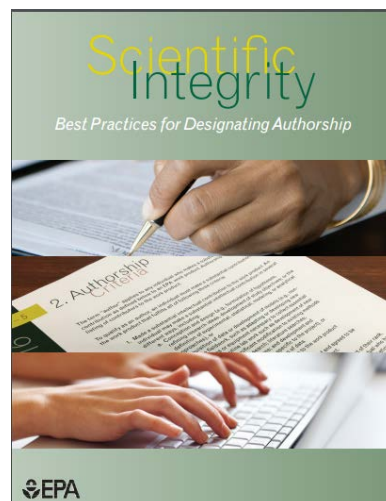
Bibliographic entries provide supplementary sources for information on the subject of the document. Present this literature, which has not been cited in the text, in a manner consistent with the references.

3.0 Style and Other Considerations

3.1 Authorship

Below is a brief summary derived from EPA’s *Best Practices for Designating Authorship* (U.S. EPA 2016). Please consult the original document (herein referred to as *Authorship Best Practices*) for detailed explanations of the issues described here and instructions on how to manage disagreements and violations. Italicized items are taken directly from the authorship text.

The designation of authorship plays a critical role in transparency by identifying who is responsible for the information and conclusions in EPA work products and how the work products were developed. Identification of the contributors to EPA work products helps to establish public confidence in the scientific integrity of those products. Such recognition can also be an essential measure of job performance and necessary for career advancement. However, the issue of who qualifies as an author can sometimes be contentious.



3.1.1 Purpose

The purpose of EPA’s Authorship Best Practices document is to provide a common understanding across the Agency for attributing credit and accountability to individuals and groups who contribute to those EPA work products that designate authorship.

The *Authorship Best Practices* document emphasizes that the most important best practice for avoiding and resolving authorship disputes is to discuss responsibilities and authorship among participating individuals before a project commences and periodically as work progresses.

3.1.2 Applicability

The best practices described in the *Authorship Best Practices* document:

- Apply prospectively to any EPA work product where authorship is designated
- Address situations involving non-EPA employees, such as students, fellows, interns, technicians and individuals who are contractors
- Address issues related to conflicts of interest, bias, plagiarism and copyright

The best practices ... apply prospectively to any EPA work product where authorship is normally designated, including but not limited to journal articles, reports, presentations, posters, documentation of models or software, communication products, technical support documents, and guidance documents. [The EPA's Authorship Best Practices] document does not create new requirements for designating authorship for previously un-authored documents.

3.1.3 Authorship Criteria (Excerpted)

Any, all and only contributors fulfilling all of the following three criteria should be named as authors:

1. Made a substantial intellectual contribution including any or all of the following:
 - Conception and design
 - Acquisition of data (e.g., non-routine field or lab work; literature searches; theoretical calculations)
 - Development of models or application of modeling specific to the project
 - Analysis and interpretation of data
2. Wrote or provided editorial revisions with critical intellectual content
3. Approved the final version and agreed to be accountable for all aspects of the work

Independent of their rank, status or affiliation, any individual who has met these three criteria should be named as an author and, conversely, any individual who has not met these three criteria should not be named as an author. The same authorship criteria apply to trainees, such as students, postdoctoral fellows and interns; to technicians (although performing routine tasks does not fulfill the authorship criteria); and to individuals who are contractors and are not federal employees. Where an EPA contractor is among the authors of any work product that lists authors, the text, “**Contractor’s role did not include establishing Agency policy,**” must be included in that work product’s disclaimer.

Suppressing authorship by unreasonably interfering in the ability of an individual to meet these three criteria is a violation of EPA’s *Scientific Integrity Policy* (U.S. EPA 2012).

Authorship order generally reflects the relative contributions of each author. However, all authors are responsible for the overall accuracy and quality of the work product and are liable for research misconduct associated with its content.

Individuals who make a substantial contribution to a work product but do not meet the authorship criteria specified above should be listed in an acknowledgments section in the work product with a brief description of their role, if possible. Individuals listed in the acknowledgments section should be notified before final publication of the work product.

NOTE: The full wording of EPA’s authorship best practices is found in Appendix B.

3.1.4 Plagiarism and Self-Plagiarism

The material below in italics is quoted directly from EPA’s *Best Practices for Designating Authorship* (U.S. EPA 2016).

- When a work product includes previously published material, the best practice is transparency – putting editors, meeting organizers, readers and audiences on notice to exactly which portions of a work product are new and which are restated from elsewhere.

- An individual who knowingly publishes the intellectual work of another without appropriate credit has committed plagiarism.
- Self-plagiarism is the reuse of significant portions of one’s own work without citing the original work. There are two distinct forms of self-plagiarism: text recycling and redundant publication.
 - *Text recycling occurs when sections of the same text appear (usually unattributed) in more than one of the author’s own work products. Authors should generally avoid text recycling. Where text recycling is unavoidable, however, authors must cite the original source.*
 - *Redundant (or duplicate) publication generally refers to the repeated publication of data or ideas without disclosing earlier publication of the material. Redundant publication of data without attribution is always unacceptable.*

3.2 Plain Language

Along with other federal agencies and departments, EPA must use plain language in all of its communications with the general public. According to the *Federal Plain Language Guidelines* (PLAIN 2011), “The first rule of plain language is: **write for your audience**. Use language your audience knows and feels comfortable with. Take your audience’s current level of knowledge into account. Don’t write for an 8th grade class if your audience is composed of PhD candidates, small business owners, working parents, or immigrants. Only write for 8th graders if your audience is, in fact, an 8th grade class.”

To quote Nobel Prize winner in physics Erwin Schrödinger, “If you cannot — in the long run — tell everyone what you have been doing, your doing has been worthless.” Illustrating his point, Schrödinger’s cat, the plain language explanation for a difficult scientific idea, has become an enduring fixture in popular culture.

Reports can benefit from careful, clear writing that follows plain language principles such as:

- Avoid unnecessary words.
- Write sentences in the active voice as much as possible.
- 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.”
- Define the terms when technical language is used and never define a word to mean something other than its commonly accepted meaning.
- Use the same term consistently for a specific thought or object.
- Keep documents as simple as possible using fewer outline levels, so that the audience can keep track of where they are in the structure of the document.
- Cover only one topic in each paragraph.

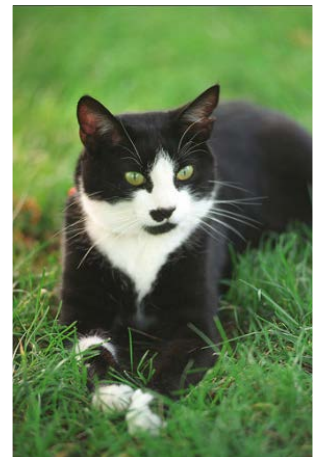


Photo by President William J. Clinton, 1994.

3.3 Jargon

The Merriam-Webster Dictionary provides three definitions for jargon:

1: *confused, unintelligible language*

2: *the special vocabulary of a particular group or activity*

3: *obscure and often pretentious language*

Scientists must carefully navigate the use of jargon to avoid the pitfall of being cast as either unintelligible or pretentious. Jargon is certainly useful in technical reports and journal articles because this specialized vocabulary can be the clearest way to convey complex information to colleagues in a specific scientific field. However, even within a specialized group, jargon definitions can vary and drift over time. Therefore, to ensure clarity among colleagues and to remain intelligible to a broader audience, *jargon should be defined on first use*. Jargon not likely to be found in specialized dictionaries or glossaries must always be defined.

There are exceptions to the requirement that jargon should be defined. First, if the explanation of terminology is not central to the study and if understanding the terms would require an extraordinarily specialized background, plain language is optional. Second, if the explanation of medical terminology is not central to the study and if the explanation would be gruesome, then plain language is optional.

3.4 Abbreviations

The *Federal Plain Language Guidelines* (PLAIN 2011) states, “When you are considering whether to use an abbreviation ... remember that they should make it easier for your users. If they make it harder, you have failed to write for your audience.” 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 it has been defined and used in the front matter. Avoid using abbreviations in the executive summary. Do not use the same abbreviation for different spelled-out words.

It helps the reader if abbreviations are periodically spelled out; readers can forget an abbreviation introduced early in a report and then not used again until late in a report. Avoid using abbreviations in titles of reports, section headings or the table of contents.

3.5 Accessibility

Section 508 of the Rehabilitation Act (29 U.S.C. § 794d) requires federal agencies make all website content accessible to people with disabilities including those with visual and auditory impairments. Content required to be accessible includes all attached files on the internet and in both internal ¹ and external reports. HSRP reports must all be made 508 compliant and much of the



¹ Section 508, Subpart A, § 1194.1 Purpose. “Section 508 requires that when Federal agencies develop, procure, maintain, or use electronic and information technology, Federal employees with disabilities have access to and use of information and data that is comparable to the access and use by Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency.”

remediation is handled by contractors. Alternative text will be added for images where authors have not supplied it; however, authors remain responsible for the content of the alternative text. [Alternative text can be added by authors using Microsoft® (MS) Word® software by right clicking on an image, selecting “Format Picture” at the bottom of the drop down menu, and selecting the “Layout and Properties” icon.] Some issues must be managed by report authors:

- Do not convey information solely as watermarks or header notes. Screen readers do not read watermarks and headers.
- Do not convey information solely by color-coding. Screen readers do not read images placed in tables to convey information. If images are used, the information must also be conveyed in a readable manner in the table.
- Do not use color alone to convey information or meaning. According to the National Eye Institute (NEI 2015), “As many as 8 percent of men and 0.5 percent of women with Northern European ancestry have the common form of red-green color blindness.” So, a chart featuring a red and green line is not useful to a large segment of the general population.
- Ensure that color contrast is sufficient to make images and chart labels clearly visible and easy to read.
- Use standard fonts. Do not use script, fancy or customized fonts.
- Insert footnotes using the MS Word Footnotes feature rather than creating them manually.
- Use the MS Word Paragraph feature to create bulleted or numbered lists.

3.6 Copyright and Trademarks

Authors must obtain permission to use material including text, images, photos, illustrations and web images from the creator or owner of the material. Credit the artist, photographer or source of the photograph or illustration. Do not use copyrighted material or any material or photograph from the internet without written permission. Some images from government web pages are purchased for use exclusively on that page; authors should check the fine print to ensure that the image is not copyrighted material.

Reports need to include the proper intellectual property markings. The proprietary name should be capitalized throughout the text. The EPA *Style Manual* (U.S. EPA 2009) states that “We [EPA] don’t need to display a trademark or copyright symbol when we mention a trade name in our publications.” Similarly, both the Council of Science Editors and American Chemical Society discourage using any trademark symbols in formal writing (CSE 2006, ACS 2006). However, **HSRP requires that the symbol be displayed with the first prominent use in the text.** So, you should mark the first occurrence of Starbucks® coffee, but not the second occurrence of Starbucks coffee in the text. Displaying the trademark or copyright symbol throughout the text is discouraged as it does not conform to professional standards for formal writing and it impedes reading.

Trademark ownership information can be found on most companies’ websites. Check a product’s technical documentation first, and 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 ™.

The trademark may not be used as a substitute for the product itself. So, it is incorrect in a formal

document to write, “Use a Kleenex[®],” you must write “Use a Kleenex[®] tissue.”

3.7 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. Footnotes in tables are an efficient way to present peripheral information. For table footnotes, use superscript, lowercase letters, starting from the top of the table and proceeding from left to right. For tables that include mathematical or chemical equations, use symbols for citations instead of letters.

Use symbols (*, †, ‡, §, ¶, ¶) to indicate table footnotes whenever letters or numbers could become confused with the table contents.

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.

3.8 Figures

Be consistent with figures: fonts, shading and line widths should be the same in each figure.

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.

Unless decorative in purpose, all graphics, tables, figures and images must be cited and described in the preceding text. The described item should appear soon after, preferably on the page on which they are referenced. When a report contains only a few pages of text and many graphics, place the graphics, figures and tables in numerical order following the text.

Images must be clear and relevant details large enough to be viewable. Labels within the images must be equivalent to at least nine-point font and colors must be easily distinguishable. Reports containing images labeled with very small font (Figure 2) will be rejected by HSRP.



Figure 4. Small font makes this image unacceptable.

3.9 Formatting

Be consistent in the use of numbers, abbreviations, capitalization, spelling and hyphenation.

Further information (in alphabetical order) is provided below.

- **Blank Pages:** Do not insert blank pages. The exception is the blank page after the cover, which will be inserted by the formatting team.
- **Chemicals:** The names of chemicals should not be capitalized in ordinary text; alternate formatting is acceptable for laboratory methods.
- **Figure Notes/Credits:** If there are notes or credits associated with a figure, include that information following the figure caption.
- **Font/Font Size:** As illustrated in this sentence, standard text is Times New Roman[®] 12 point. Other standard fonts may be used. As illustrated in this sentence, some fonts, such as Arial[®], are legible in an 11-point font. Font size ten is reserved only for notes to tables and footnotes

(see below) and finer font should not be used. Nonstandard fonts can cause problems when converted from the original format by Adobe® Acrobat® portable document format (PDF) conversion software or when converted to spoken language via a screen reader.

- **Footnotes:** Footnotes should be typed in ten-point font and should be separated from the main text by a short, left justified line.
- **Justification:** All paragraph text should be left justified with a ragged right edge. Fully justified text (even with both the left and the right margin) is achieved by the insertion of uneven spacing between letters. This distorts the shape of words, which makes reading more difficult for all readers.
- **Line Spacing:** Single-spaced or 1.15 spacing should be used.
- **Margins:** Do not set margins smaller than 0.75 inches.
- **Notes and Footnotes:** Notes and footnotes for tables should be in ten-point font and should be aligned with the left edge of the table.
- **Numbers:** Spell out numbers from one to ten, and use numerals for numbers over ten. Spell out 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.”
- **Paragraph Spacing:** A single line is included between each paragraph.

3.10 Word Usage

EPA's *Communication Product Standards Stylebook* (US EPA 2009) addresses word usage and grammar issues. The Associated Press's *AP Stylebook and Briefing on Media Law* (Kent et al. 2016) should be used for questions not answered by the EPA stylebook.

Affect/effect – The word *affect* is normally a verb. The word *effect* is normally a noun. For example, “Acid rain affects trees.” “Acid rain’s damaging effects include weakening trees.” The only use of the word *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 – The word *Agency* is capitalized when it refers to EPA.

By-product – The word *by-product* is hyphenated.

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

Comprise/compose – The word *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 – The term *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.”

Ground water – The format *ground water* is preferred over *groundwater*. Do not use the format *ground-water*.

Impact – EPA says that the term *impact*, as a verb, is overused. Use *affect* or *affected* instead. For example, use, “The contamination will affect a large area” instead of “The contamination will impact a large area.” Use, “The affected area” instead of “the impacted area.”

May – Do not use the word *may* unless it means permission or free choice. *May* should not be used in place of *can*, *might*, *could* or *would*. The erroneous use of the word *may* by EPA could lead to an erroneous statement by EPA: “Someone may dump toxic waste into the river.”

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

Section, article, part – These terms are not capitalized, even when referring to part of a law or regulation.

State, federal, regional, local, tribal – These terms are not capitalized unless they begin a sentence or form part of an official title.

Stormwater – The term *stormwater* is one word, not hyphenated.

That/which – Do not use the word *which* in place of *that*. *Which* is preceded by a comma; *that* is not. *Which* tells something about the subject that is not absolutely necessary. For example, say, “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.”

Wash water – *Wash water* is two words.

Waste – The term *waste* is plural. The only instance where the term *wastes* should be used would be to indicate and call attention to different types of wastes. So “hospital waste contains various dangerous items” is correct; “solid and liquid wastes must be treated differently” is also correct.

Wastewater – *Wastewater* is a single word.

3.11 Internet Terms

The [AP Stylebook](#) (AP online) has updated the format for many terms. These types of terms will, of course, continue to change so you can check the stylebook if in doubt.

Email – The term *email* has no hyphen.

E-book – The words e-book, e-reader and e-commerce remain hyphenated.

Internet – The term *internet* is lowercase.

Online – The term *online* is not hyphenated.

Web – The term *web* is now lowercase.

Web term blends – The terms *website*, *webcam*, *webcast*, *webfeed*, *webmaster* and *webpage* have been blended into single words.

Web terms unblended – The terms *web address* and *web browser* remain as two words.

World Wide Web – The term *World Wide Web* is still capitalized.

3.12 Scientific Conventions

Some special requirements accompany technical and scientific publications. As the title of the artwork in Figure 3 reminds us, *keeping up with science* requires familiarity with universal scientific conventions

as well as the field-specific conventions. Here are a few key conventions:

- In reports that summarize the results of testing or evaluation of equipment or methods, list the tested items and the manufacturers' names and locations (city, state or city, country) in a table or an appendix.
- Refer to the International System of Units and other standard-setting organizations for spelling, format and accepted abbreviations of units.
- 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, include the name followed by the model number, manufacturer's name, city and state (and nation, if outside the U.S.) in parentheses. If the manufacturer's name and location are unavailable or obscure, the supplier and location may be listed instead. Do not use a brand name (or trademarked name) if reagents, laboratory supplies or other apparatus used are the generic equivalents.
- 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 units, include a brief mention of that either as a footnote or in a longer explanatory section.
- Standardize scientific notation and use standard systematic nomenclature if trivial nomenclature would be ambiguous. For example, "dichloropyridine" could refer to 2,6-dichloropyridine, 3,5-dichloropyridine, or other related compounds. Check the International System of Units and other standard-setting organizations for details on usage and format.

- Similarly, the species indicated by the common name “blackbird” has changed over time and varies by location. Accompany ambiguous common names with scientific nomenclature.



Figure 7. Work Projects Administration Poster Collection, 1939, Shari Weisberg, artist.

4.0 References

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Appendix A.

Excerpted from ORD Policy and Procedures Manual, section 14.3, Appendix C (Personal Communication)

APPENDIX C. DISCLAIMERS AND NOTICES

Adding an appropriate disclaimer to a document or product informs the public about the purpose of the product or document and serves to protect the agency when the document is written as part of official agency duty. Disclaimers should be tailored to the particular product or document based on the contents of the document and intended use of the document. You may find that one or more of the example disclaimers in this document apply to your product. As you decide what to include in your disclaimer, you should consider how the public might view your document and what appropriate uses of the document could be. This appendix deals primarily with documents or products that are created as part of your official duties. There is, however, also a section to address the ethical ramifications of writing on your own time and not as part of your official duties (“Writing in Personal Capacity”).

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This document is distributed solely for the purpose of pre-dissemination peer review under applicable information quality guidelines. It has not been formally disseminated by the U.S. Environmental Protection Agency. It does not represent and should not be construed to represent any agency determination or policy.

According to the OMB Peer Review Bulletin^[2], “In cases where the information is highly relevant to specific policy or regulatory deliberations, this disclaimer shall appear on each page of the draft report. Agencies also shall discourage state, local, international and private organizations from using information in draft reports that are undergoing peer review.”

OGC [Office of General Counsel] Contact: Cross Cutting Issues Law Office (CCILO).

² Office of Management and Budget. 2004. Memorandum for heads of departments and agencies, From Joshua B. Bolten, Director, Subject: Issuance of OMB’s Final Information Quality Bulletin for Peer Review. December 16, 2004. Washington DC: Executive Office of the President, Office of Management and Budget. Accessed online October 18, 2016 at <https://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2005/m05-03.pdf>

Final Products

For an official dissemination (generally if it is published as an EPA document with the EPA logo and cover), recommended language includes:

This document has been reviewed by the U.S. Environmental Protection Agency, Office of Research and Development, and approved for publication.

Scientific and technical work products that are not considered official agency disseminations, such as scientific journal articles, are excluded from the requirements of the OMB Peer Review Bulletin when the following disclaimer is used:

The views expressed in this [article/presentation/poster] are those of the author(s) and do not necessarily represent the views or policies of the U.S. Environmental Protection Agency.

OGC Contact: CCILO.

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If a document is developed for internal use only, it may be deliberative in nature and accorded particular status under the Freedom of Information Act (FOIA) and in litigation. Such documents should be clearly marked and should not be shared outside the agency without appropriate consultation with OGC and senior management. On internal documents, it is helpful to clearly indicate the peer review status and whether the document is deliberative.

OGC Contact: General Law Office (GLO).

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Provided that the agency has articulated non-arbitrary and impartial criteria for the selection of specific products or services, the following disclaimer should be used to make it clear to the user that any mention of trade names or commercial products is not to be viewed as an endorsement.

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OGC Contact: Ethics.

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Although there are additional protections for the agency against claims of liability arising from using or relying on information, software, or tools, adding language about these risks can help put readers/users on notice. It also provides an additional layer to defend the agency if someone were to make a claim.

Example #1, from a workbook created to help schools create or improve management of their chemicals to avoid chemical spills or other emergencies:

This document is for informational purposes only and is not intended as legal advice. The contents are for general informational purposes, and should not be construed as legal advice concerning any specific circumstances. You are urged to consult legal counsel concerning any specific situation or legal issues. This document does not address all federal, state, and local regulations, and other rules may apply. This document does not substitute for any EPA regulation and is not an EPA rule.

Example #2:

The environmental screening checklist and workbook are tools to be used to help you evaluate compliance at your facility. They do not contain an exhaustive list or description of all federal environmental regulations that may apply to your facility. In addition, your facility is responsible for knowing and complying with all applicable tribal, state, and local requirements.

Example #3, from the Center for Exposure Assessment Modeling website:

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OGC Contact: Civil Rights and Finance Law Office (CRFLO).

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OGC Contact: GLO.

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OGC Contact: Ethics.

Appendix B.

Copy of the full authorship criteria description from U.S. Environmental Protection Agency. 2016. *Best Practices for Designating Authorship*. EPA 601/K-16/001.

4 – 5

2. Authorship Criteria

The term "author" applies to any individual who makes a substantial contribution, as defined below, to an EPA work product. Authorship refers to the listing of contributors to the work product.

To qualify as an author, an individual must make a substantial contribution to the work product that fulfills all of following three criteria:

1. Made a substantial intellectual contribution to the work product. An individual may make a substantial intellectual contribution in several different ways, including:
 - a. Conception and design (e.g., formulation of hypotheses, refining research ideas, development of study objectives; or the definition of experimental, statistical, modeling, or analytical approaches), or
 - b. Acquisition of data or development of models (e.g., non-routine fieldwork, such as adapting or developing new techniques or equipment necessary to collect essential data; non-routine lab work such as development of new methods or significant modification to existing methods essential to the research; literature searches; theoretical calculations; and development and application of modeling specific to the project), or
 - c. Analysis and interpretation of data.
2. Wrote or provided editorial revisions to the work product containing critical intellectual content¹².
3. Approved the final version to be published and agreed to be accountable for all aspects of the work product.

Any individual who has met these three criteria, independent of their rank, status, or affiliation, should be named as an author. Any individual who has not met these three criteria, independent of their rank, status, or affiliation, should not be named as an author. An individual who knowingly publishes the intellectual work of another without giving appropriate credit has committed plagiarism. Suppressing authorship by unreasonably interfering in the ability of an individual to meet these three criteria is a violation of EPA's Scientific Integrity Policy and should be reported to EPA's Scientific Integrity Official.



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