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# EPA Communications Stylebook: Graphics Guide

*Last revised 2009*

## On this page:

# Overview

This section of the EPA *Stylebook* describes standards for the creation and development of graphic elements of most EPA public information materials. In covering most of the categories of graphic elements, we, in turn cover a broad range of considerations and activities associated with producing those elements. Specifically, this section includes:

- Such basic aspects of graphics work as typography, layout and composition
- More advanced levels of work, such as color scheme, appropriate uses of charts and graphs and effective employment of illustration and photography
- The relationship of design to overall message content and the message content of design, itself
- On many levels, the general category of graphics work involving logos and related symbols, especially the use of official EPA identifiers in our own communications and those done in cooperation with other governmental and private organizations

Design is, itself, communication and carries a message. While good graphic design is aesthetically pleasing its function is to communicate, not simply decorate or attract attention to verbal content. In typography, graphic

considerations literally cannot be separated from text, but in all respects verbal and design elements should work together. Variously they complement or supplement a message that might not be conveyed by either element alone.

Perhaps least interesting, but most important, is that good graphic design, generally following an appropriate style, is a preeminent factor in the economics of communication. Good graphic design saves money in the direct costs of production and the often much higher costs of time and labor.

As with most of this stylebook, the information in this section is helpful in itself, but also should be read in connection with the EPA Communication Product Review process.

## General Guidelines

Sometimes applying general principles can be a bit of a balancing act, but there is no real conflict among any of the general guidelines for actual production work in our communications. They are:

- Effective communication the totality of this manual is about that
- Efficiency / cost efficiency
- Good quality / best professional practices
- Ecological soundness including sustainable production practices
- EPA Administrative Orders and Policies (detailed all throughout this manual)
- Government Printing Office (GPO) rules and guidelines (NOTE: GPO Stylebook is being revised through 2008-2009. EPA is not obliged to follow it in all cases, but as a matter of policy follows closely because it represents an excellent compendium of good production practices.)

By federal government standards EPA does not have a large budget, so considerations of cost-efficiency and cost-effectiveness must be relatively high on our scale of priorities.

In sheer numbers, most EPA communications products tend to be print materials. No medium is better than another in any general way. The best medium and format is the one that is suitable and appropriate to convey its message to its target audience in an effective and efficient way. Print is an important focus for our work.

Internally, the Office of Public Affairs and the Printing Management Office closely coordinate their work through the Communications Product Review process and the EPA Printing Guidelines. As an EPA communicator, you should know the procedures and processes of those offices before undertaking a public communication print project.

Other media have fewer broadly established requirements in federal agencies. Largely the requirements for EPA communications are the same as the professional and commercially accepted standards of the various media from promotional products to broadcasting to exhibits and displays.

# Color Printing vs. Black and White

Many color considerations from a production standpoint are based on the assumption that materials are produced on a printing press. Most large quantity printing jobs are must be done that way. Color considerations from a design standpoint, or for small quantity jobs (e.g., color photocopying) might not apply, at least not as strictly, or in the same way. A tricky element that is involved here is that work which begins in desktop publishing software, perhaps intended as low-volume production, might become more involved, difficult and costly if you decide to take it to large-scale production later.

Using color is an important consideration for large quantities that are to be run on a press. In those circumstances the cost is usually much higher to produce in color. The simple addition of one or two colors will increase costs noticeably. The use of full color (See glossary: process color, four color) will raise costs even more noticeably.

A principle that should apply from a design standpoint that can affect production significantly is that the use of color should promote effective communication. Mere cosmetic or decorative qualities are among the very least important reasons to employ color. Where they are the only reasons, to the extent that they increase costs, they are reasons to choose a less colorful design.

Note that standard black (or blue) ink is a color, so, for example a two color job would be black plus one other color; not two colors in addition to black or blue.

See Section 18-2 of GPO s *Printing and Binding Regulations* for categories of multi-color printing as having demonstrable value to the government.

As a rule of thumb, if an audience is seeking the information contained within, and needs no further motivation to read it all, nor direction to specific parts of the document, then one color probably will suffice. That is a simple principle that applies mainly to instances in which color is used simply to guide the eye of the reader and does not function in terms of content, as such. If color is needed for clarity, identification, or efficiency, or if the audience is likely to want the information but unlikely to seek it out, or read it easily then two or more colors could be appropriate, especially if the document concerns public health or consumer issues.

This rule-of-thumb guidance is not official policy and should not be relied on without confirmation from EPA s Printing Management Office.

If more than two colors of ink are required on a page, a written justification is to be submitted to the Agency printing officer citing the applicable GPO criteria described above.

# Requirements and Printing Regulations

## Use of Employee Photographs

Photographs of EPA staff should be reproduced when they:

- Relate entirely to the transaction of public business, and are in the public interest
- Relate directly to the subject matter and are necessary to explain the text

- Do not serve to aggrandize any individual
- Are in good taste and do not offend proper sensibilities
- Are restricted to the minimum size necessary to accomplish their purpose
- Illustrate employees actually engaged in an act or service related to their official duties

Unless a publication is specifically designed to highlight employees (such as an awards ceremony program), mug shots of executives, managers or staff should not be included in publication. Employees may be photographed, as appropriate to the message, in performance of their duties. In fact, that can be an excellent message in the right context.

Despite the restrictions cited above, the use of illustrations to enhance the communication of information in publications is encouraged. The following guidance should prove beneficial.

- When using one or two colors, photographs especially photographs of people look best if printed in black ink
- When using multi-color printing, all colors must be specified as proportions of process inks (Cyan, Magenta, Yellow and Key or black) and not using numerous Pantone ink colors; specifying with Pantone ink numbers could result in using more than four colors of ink
- Keep illustrations as simple and uncluttered as possible

## Electronic-Design Print Publishing

The goal of this section is to provide best practice guidance to originators who create publishing products via desktop computers. No specific instructions are given for creating the perfect electronic file, but suggestions are provided to simplify the process and minimize potential problems. The art and science of producing printed publications using commercial offset lithography or the digital method requires different structured files. As an example, the colors produced by these reproduction means are very different and often limited compared to desktop printing. Understanding the requirements and limitations of commercial reproduction will definitely affect the final cost.

*Platform:* Electronic files should be created using either the Macintosh OS 10.2 system or later or Microsoft s Windows OS 2000 or XP. The Macintosh is the primary platform used by the print publishing industry and thus using this process often results in fewer problems and typically with lower overall costs. Either platform is acceptable, however.

*File Submission:* Files can be submitted on any commercially-established media, such as a CD or DVD. If submitting a DVD, make sure that the format of the DVD drive used by the end user is the same format as the DVD drive used for recording. Note: DVD-RW drives only record on R and RW discs, and DVD+RW drives only record on +R and +RW discs. Make sure your blank DVD disks are compatible with your drive. The minus format is the most popular format for Windows users and is almost universally accepted by Mac users as their standard DVD recordable format.

*Commonly-Accepted Publishing Software:* The following programs are the preferred programs of the commercial printing industry. Files created using the following software output with fewer problems than files created in programs not

designed for print publishing (such as word-processing software, i.e., Microsoft Word ). Other programs could be used, but unless they support prepress functions (e.g., CMYK and Pantone color, trapping, bleeds, crop marks and color separation), problems will likely occur. Originators who use programs other than those listed below should supply high-resolution, press optimized PDF files (press quality, CMYK, and embed all fonts when saving the files as a PDF) and also include the native files on the CD.

### *Macintosh Platform*

- Page Layout: Adobe InDesign, QuarkXPress, Adobe FrameMaker
- Drawing/Illustration: Adobe Illustrator, Macromedia FreeHand
- Image Manipulation: Adobe Photoshop

### *Windows Platform*

- Page Layout: Adobe InDesign, QuarkXPress, Adobe FrameMaker, Adobe FrameMaker
- Drawing/Illustration: Adobe Illustrator, Corel Draw, Macromedia FreeHand
- Image Manipulation: Adobe Photoshop

*File Formats for Print:* Furnish files in native format. For example, using a Windows version of InDesign, the file will be saved with an .indd extension. Using the save feature of most publishing software creates a native application file.

If the Adobe Acrobat Portable Document Format (PDF) file format is used, the submitted file must be created properly. The PDF must contain embedded fonts, graphics, color data and layout structure. Also, design elements must contain appropriate information, e.g., color space, fonts, resolution, in order to be output properly. PDF files created specifically for web use might not output well for print publishing due to resolution, color and other issues. PDF files for press output must be created using the appropriate settings in Acrobat Distiller, not through the PDFWriter. PDF files created using the PDFWriter are not acceptable for print publishing. Information for instructions on creating high quality PDF files can be found at many Web sites, including Adobe and PlanetPDF. Information is also available from GPO s Institute for Federal Printing and Electronic Publishing. Also, please note that bleeds cannot be obtained from a PDF file.

PostScript files, commonly referred to as print-to-file or print-to-disk, are similar to PDF files in that they are designed as self-contained, platform independent, print-driver files, e.g., contain fonts, graphics and layout structure. The majority of GPO s vendors prefer not to receive PostScript files because they often contain output limitations specific to the print driver used to create the file. Also, if PostScript files are submitted, EPA will be responsible for any PostScript errors encountered during output.

*File Formats for Deliverables:* Whenever a document has been printed through GPO, EPA can request that a digital deliverable be furnished to the Agency. This deliverable can be formatted for online use or for future reprinting. It is up to the originator to determine the desired format for the digital deliverable. Sample formats are listed below.

***Hypertext Markup Language (HTML):*** This is the most common format for creating web pages. HTML can be exported from most programs used for layout. HTML files are readily searchable and are best use for publications that do not require a high degree of document structure (e.g., formatting, graphic fidelity and page structure) and are not required to visually match the printed version. If links, formatting, graphics/animation, hand coding, etc., are required, these features can be time consuming and costly.

<u>*Acrobat PDF:*</u> This is the most common format for presenting documents online or subsequent reprinting. PDF files are relatively easy to create and when printed to an office printer, product design and page formatting are maintained. However, the type of digital deliverable PDF that is requested is determined by the desired use press or online.

- **Press PDF:** A press-optimized PDF should be requested for subsequent printing. These PDF s contain embedded fonts, graphics, color data, and layout structure.
- **Online PDF:** A screen/web optimized PDF is used for online viewing or printing from an office printer, NOT FOR PRESS.

***Fonts:*** PostScript Type 1 fonts is the printing industry standard. The entire font set (Macintosh printer and screen fonts; Windows .pfm and pfb files) should be provided. Only include the font sets used in the job and not your entire font collection. Font files that contain features such as kerning and tracking MUST be provided. Fonts such as True Type and OpenType fonts may be used, but most commercial print vendors prefer files using PostScript fonts. Do not mix font types.

One way to avoid font problems with graphic files is to convert all type matter in the graphic to either outlines, paths or curves, depending on the software. Keep in mind, however, that once converted to outline/path/curve, text is very difficult to edit.

***Printing in Color:*** Any file requiring four-color process separations must be submitted in CMYK only. Do not submit color files in RGB. Any file requiring spot-color separations should be defined by the proper spot-color Pantone number and identified as spot colors for output. When printing in grayscale black ink, any color information should be removed.

**Note:** When RGB (red, green, and blue pixels) is converted to CMYK (cyan, magenta, yellow and black) for process printing, a color shift will occur. RGB colors are used for electronic display (computer monitor, TV, projector screen, etc.), NOT FOR COMMERCIAL PRINTING. Word processing software such as Microsoft Word, PowerPoint, Excel, and Corel WordPerfect use RGB and are not designed for CMYK output.

**Note:** When specifying Pantone spot colors, be aware that coated Pantone colors are not the same as uncoated Pantone colors. Since EPA only uses uncoated paper, be sure that all specified Pantone numbers are uncoated, i.e., Pantone 462U and not Pantone 462C.

Color visuals that are furnished with the electronic files which have been output from office printers are not a good representation of the final printed product due to the physical differences between ink in traditional printing; inks, toners, and dyes in digital printing; and the colorants used in desktop color printers and their

calibration. Also, printing proof colors might not be a good representation of the actual colors on the printed product due to the final product being printed on recycled paper.

***Scanning Images for Digital Printing:*** Scan all images (color and grayscale photographs) at a resolution of 300 pixels per inch at an input-to-output size ratio of 1 to 1. For example, a 3 x 5 inch original photograph that is to be printed at 3 x 5 inches should be scanned at 300 pixels per inch, where the same photograph to be printed at 6 x 10 inches should be scanned at 600 pixels per inch. All other enlargements and reductions are similarly proportional.

Scan all line art as bitmap images with a resolution between 800 and 1200 pixels per inch, based on the same 1 to 1 ratio. Scanned images should be saved as uncompressed TIFF or EPS files. Images should be cropped, rotated, and scaled prior to placement into the page layout file, which is best accomplished in the image manipulation program, not in the page layout program. Also, working in layers whenever possible with raster images makes corrections much easier to achieve.

If using a digital camera to capture images for print publishing, avoid using the compression schemes built into digital cameras. If compression is necessary, use the lowest possible (highest quality) compression option available. Always save images from digital cameras as TIFF files before editing and submitting for printing. Also be aware of color shifts with images from digital cameras. The RGB color data (JPEG) could cause the on-screen view and color printer appearance to differ from the printed output. Requesting contract color proofs should show any color shift problems.

***Linking Files:*** All files must be linked properly. If using Adobe InDesign, use Place to establish external links. Using the Edit menu to cut and paste graphic files between programs could yield unacceptable results cutting and pasting color images from Microsoft Word, PowerPoint, Excel, can cause output problems such as color shift and system crashes. If graphic files have been modified in an originating program after placement in the page layout file, they MUST be updated (relinked).

***Proofing:*** The furnished visual (output from desktop/office printer) is used as a general guide, not as a proof. It is not a suitable proofing medium due to the physical differences between: (1) ink in traditional printing; (2) inks, toners, and dyes used in digital printing; (3) colorants used in desktop color printers; and (4) calibration of the color printer. If the furnished files contain any errors, print vendors are not obligated to verify that their output will match the supplied visual. For this reason, it is wise to get proofs for all jobs supplied on electronic media.

***Extraneous Images:*** Do not include non-imaging files or files that are for position only on the production disk. If they have been included, be sure to indicate that they DO NOT PRINT. Non-printing images can cause confusion and might cause the file to fail.

***Gradients:*** To avoid problems with banding, gradients should be properly created. Gradients should generally range from 3 to 97 percent for offset printing (avoid using 0 and 100 percent), where digital printing requires a higher percentage in the highlight.

***Tint Screens:*** Never use fine-detail tint screens (under 5 percent). Fine-detail screens appear acceptable when imaged to desktop printers (300-600 dpi) but virtually disappear when imaged at higher resolutions. As a general rule, start with 10 percent and increase in increments of 10 percent. If possible, avoid any screen higher than 90 percent.

***Rules:*** Never use rules that are less than .5 point. Hairline rules appear acceptable when imaged to desktop printers (300-600 dpi) but virtually disappear when imaged at greater resolutions.

***Bleeds:*** Bleeds are to be provided by the originator and must be included in all files that image off the final printed page. As a general rule, allow 1/8 inch minimum for any bleed.

## EPA Policy Regarding Paper Stocks

All printing paper products used by EPA are to meet the standards of the New Environmental Standards for EPA Paper and Publications, which was set forth by the Deputy Administrator in his memorandum of January 2001. This standard for paper requires the use of 100 percent recycled paper with a minimum 50 percent post consumer fiber content. Printing will be done using vegetable-based inks and process chlorine free paper. The Deputy Administrator also directed that all EPA internal and external publications prominently display the recycled logo with a statement indicating the recycled paper content, processed chlorine free, and using vegetable-based ink. EPA documents and publications must be printed on paper stocks that can easily be recycled. Therefore, litho-coated, matte-coated, and dull-coated paper stocks are not acceptable for use in EPA documents.

## Paper Savings and Standard Paper Sizes

Because of the costs of paper, shipping, mailing and printing, in most cases copy should be single-spaced. All publications should be printed front and back. Consider appropriate paper-saving techniques, such as combining tables and figures with text on one page and reduce and crop figures and photographs to a smaller size consistent with clarity. The Joint Committee on Printing established standard paper sizes for government printing. A few sample sizes mandatory for EPA publications include: 17 by 11 inches, 8-1/2 by 11 inches, 5-1/2 by 8-1/2 inches, and 8 by 3-5/8 inches. These sizes can be cut from larger sheets with a minimum of waste resulting in cost-savings publications.

## Use of Government Bankcard for Printing/Photocopying

Use of the government bankcard for printing/photocopying services is prohibited unless a waiver is approved by your local Photocopying/Printing Manager or your local Printing Control Officer. Also, Title 44 USC, Section 501, limits sole-source procurement actions to $1,000 or less. Printing/photocopying services include (but are not limited to) any image transferred to paper, plastic/vinyl, CD/diskette

duplication, color copying/digital copying, black and white photocopying/digital photocopying, liquid ink digital copying/printing, Journal reprints/page charges, and offset printing.

In Headquarters, a wavier request for bankcard purchases must be submitted in writing, either by memorandum or e-mail, to the Agency Printing Officer and include:

1. number of pages and number of copies of the document,
2. estimated printing cost from outside vendor, and
3. schedule required.

In a field location, the request must be submitted to the local Printing Control Officer. If the request is for Journal article page charges and/or reprints, an EPA Form 1900-8, Procurement Request, is to be included and must also indicate the title of the article and the name of the publishing Journal.

A determination will be made as to whether the materials can be produced either by the Government Printing Office (GPO) or EPA s in-house copy center, while maintaining the required schedule. If it is determined that neither GPO nor EPA s in-house capabilities can meet the required schedule, a waiver will be granted with the cost not to exceed $1,000.

# In-House Copy Center Duplication

The following guidelines apply to copies made in EPA s in-house copy centers. EPA contractors and grantees are to also follow these guidelines when furnishing EPA with their findings for the use of a department or agency. Under no circumstance can these copies be used for distribution to the public.

The Joint Committee on Printing has ruled that producing less than 5,000 units of only one page or less than 25,000 units in the aggregate of multiple pages for the use of a department or agency will not be considered to be an item of printing. This is for black and white copying only. Color copying, which must fall within the justification for use of color printing, has a maximum total aggregate of 100 units.

# Peer Review

The Joint Committee on Printing of the United States Congress requires that Federal agencies have initial publication rights. Only after peer and administrative review can EPA decide whether to publish a report or waive its initial publication rights. As required by EPA Order 2200.4A, all communication products issued in the name of the Agency must undergo review and clearance before publication and external distribution. Designated officials must certify that all such materials have been adequately reviewed. It is important to note that the review process applies not just to EPA employees, but also to contractors and others performing research or publishing statements on behalf of EPA.

# Anchor Elements

Cover design should consider both the purpose and the appearance of the publication. Physical specifications are usually dictated by product size, intended use and audience. Consult on-site mailroom staff and obtain templates from www.gpo.gov. Certain anchor elements, however, are required on all documents that are distributed to the public.

Publications that use self-covers must include all of the anchor elements listed on the attached PDF file (102 K, 1 pp.).

## Front Matter of a Book

*Title Page:* Center everything on the title page using initial caps only (e.g., Handbook, not HANDBOOK).

*Notice/Disclaimer:* Put a peer-review notice, disclaimer statement if needed, and a copyright notice on page ii of the front matter of a report.

*Foreword:* The foreword is often of a scope similar to that of the author s preface but is provided by the sponsoring Laboratory.

*Abstract:* Two types of abstracts are used in EPA documents:

- The indicative (descriptive) abstract tells readers what the report is about.
- An informative abstract reports the hypothesis, methods, results, and conclusions of research detailed in the text.

Limit the abstract to 200 words.

In extramural reports, include the following information as part of the abstract in a prominent location:

This report was submitted in fulfillment of (grant or contract number) by (contractor or X grantee) under the (partial) sponsorship of the United States Environmental Protection Agency. This report covers a period from (date) to (date, and work was completed as of (date).

In in-house reports, include the following information as part of the abstract in a prominent location:

> *This report covers a period from (date) to (date) and work was completed as of (date).*

*Preface* **(Optional):** The author's own statement about the work is called a preface. A preface might include such information as the reasons for undertaking the work, the research method (if it might bear on the reader s understanding of the text), or the limitations within which the subject was studied.

*Contents:* Always begin the table of contents on a right-hand, odd-numbered page. Include preliminary pages (front matter), main headings of the document, appendices, and the pages on which they appear. You may use dotted leaders to

aid readability of the contents. Indent and subordinate any subheadings. Avoid extra spacing between major sections when it would cause contents to have a short overrun onto the following page.

*Lists:* Include a list of figures (figures, maps, charts, illustrations) and a list of tables only if considered helpful or essential. For each figure or table, give its number, the caption as it appears in the report, and the page number. Avoid extra spacing when it would cause a list to have a short overrun onto the following page. If lists of figures and tables are short, combine them on one page.

*Acronyms and Abbreviations:* Assemble and define acronyms, symbols, and abbreviations if doing so will aid the reader. Abbreviations or symbols for uncommon or specialized terms should also be given in parentheses following their first use in the text. Thereafter, use only the abbreviation or symbol. Consider using two columns when the list exceeds one page.

*Acknowledgments:* Limit acknowledgments to peer reviewers and organizations that aided the development of the publication in a major way. EPA employees, as civil servants, should not be mentioned. The mention of any contract employee or contractor name is not appropriate. However, acknowledgment for the work done by a person for a specific work or section of a document is allowed.

## Body of Report

*Text:* Start each chapter with a dropped heading. Do not include any blank pages. Often chapter 1 is an introduction, but if your report is short, it may not require a separate introduction.

*Figures and Tables:* Reference all figures and tables in the text. Put figures and tables as close as possible to their mention in the text (but not before they are mentioned). When a report contains only a few pages of text and many figures or tables, place the figures or tables in numerical sequence after the text. Spell out the words Figure and Table in the text and captions. Put captions in boldface type. Do not put a box around figures or tables. If it is necessary to place figures or tables in a horizontal or landscape orientation on the page, center them on the page so that the top is to the left margin and the bottom to the right margin.

*Figures:* Treat figures consistently throughout the document, and use them only if they relate directly to the subject matter and are necessary to explain the text.

- Make sure that line weights and shading are consistent throughout the report. Line weights must be greater than 0.25 point to make them reproducible for printing. Do not use small details, such as tiny circles that will fill in or bleed during printing.
- Reduce figures too big to fit within the margins. Make lines heavy enough to remain legible after you reduce them.
- Make callouts within the figure clearly legible. Do not submit hand lettered graphics. Crop or mask photographs to eliminate insignificant details. Eliminate unnecessary border frames. As far as practical, place callouts in a figure horizontally, unboxed, and near the item identified. To ensure easy readability, maintain high contrast.
- Number figures consecutively, using the chapter number or appendix letter as a prefix and starting figures in each chapter or appendix with 1 (e.g., 1-5 is the fifth figure in Chapter 1; B-1 is the first figure in Appendix B).

- Put a caption under each figure flush left following the figure number. Capitalize only the first letter of the first word and any proper nouns or chemical or mathematical symbols, and close with a period.
- If illustrations are used, be sure they are sized and placed within your document as required, 300 DPI.
- Do not use footnotes in a figure; make this material part of the caption or text.

*Tables:* Organize tables as simply as possible for easy reading. Use a software package that allows for the creation of columns and rows. Make the format of tables consistent throughout the publication. If the tables require stacking more than two rows of headings (vertically) and several columns (horizontally) the table is probably too complicated for the reader; split it into two or more tables, reorganize, or eliminate some of the data. Center columns under headings, and align on decimal. Leave space between horizontal entries, and do not use vertical lines.

Number tables consecutively, using the chapter number or appendix letter as a prefix and starting tables in each chapter or appendix with 1 (e.g., 1-5 is the fifth table in Chapter 1; B-1 is the first table in Appendix B). Place a caption flush left above each table after the table number. Capitalize the first letter of each word except articles, coordinating conjunctions, and prepositions. Do not use a closing period.

When a long table is continued on two or more pages, repeat the table number and Continued, but not the table caption, on all the following pages (e.g., Table 3-6. Continued). Repeat the column headings with rules on each page.

Footnotes in tables are an efficient way to present peripheral information. Use superscript, lowercase letters, starting from the top of the table and proceeding from left to right. For a table that includes mathematical or chemical equations, use symbols instead of letters for footnotes because of the risk of mistaking letters for exponents in the equation. Use symbols in the following order:

*(Asterisk or star), (Dagger), (Double dagger), (Section mark), # (Number sign).

*References:* In the text, reference the following kinds of material:

- 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.

Present references in an accurate, uniform manner at the end of each chapter or together as the last chapter of your document. Cite references using either the number system (putting numbers in superscript or parentheses) or the author-year system (e.g., Blinksworth 1987). Use a style consistent with that of any scientific or technical journal or society. Include all essential elements of a reference: author(s) (or organization), title, source, identifying numbers, publisher, place of publication, date, pages.

Since personal communications are not usually available to the public, there is little point in using them in a list of references; if they are used, however, include them in parentheses within the text; for example, (Cavanagh, Jeanne. Letter to

author, 1990.) In citing personal communications, obtain permission from the person to be quoted.

## Back Matter

*Appendices:* Appendices contain supplementary, illustrative material, original data, and quoted matter too long for incorporation in the body of the report or generally relevant but not immediately essential to an understanding of the subject.

- Start all appendices on the next available page. (If the report ends on page 47, start appendices on page 48.) Treat each appendix title as a dropped chapter head.
- Divide the appendices into Appendix A, Appendix B, etc., depending on the kinds and amounts of material used. These divisions should not be arbitrary. A close relationship must exist among materials compiled within any given appendix.
- List all appendices in Table of Contents.

*Glossary:* If a glossary is included, list technical terms or terms that might not be readily known. A need for a glossary depends on the intended audience for the report.

*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.

*Index:* An index lists in alphabetical sequence names, titles and subjects appearing in the text. The value of any nonfiction book is enhanced by a well-prepared index. You can find instructions on indexing in most style books. Two of note are the CBE Style Manual, Council of Biology Editors, (available from Council of Biology Editors, Inc., 11 South LaSalle St., Suite 1400, Chicago, IL 60603; telephone 312-201-0101, fax 312-201- 0214) and The Chicago Manual of Style, University of Chicago Press, Chicago, IL 60637; fourteenth edition (ISBN 0-226- 10389-7) published in 1993.

# Types of Communication Materials

The materials described in the following section are for public audiences that is anyone outside our own staff. Some of the individual categories are mainly oriented to technical material, but all of them can and do include non-technical, public material. As you read the production guidelines in the following sections, it will help you keep a distinction in mind about our audiences.

We print hundreds of different documents every year for very limited and specialized audiences. The audience members are largely in technical work, but the document content is accessible to, and occasionally sought by, more general readers. Our work often becomes the source material for other publications that produced in the private sector. We print a somewhat smaller number of different documents each year for much larger, more general audiences; the press runs being of considerable volume.

The production requirements for the specialized audience materials are, themselves, more specialized. They frequently tie presentation and format specifications to content so closely that the two cannot easily be separated in terms of pre-production preparation.

The Assistant Administrators, General Counsel, Inspector General, Associate Administrators, Regional Administrators, and the Administrator s Staff Office Directors are the responsible officials for the substance, form, and policy implications of all materials originating in their respective offices. These officials must establish internal review procedures and controls to assure the high quality of their publications and issuances and assure that all such materials have been adequately reviewed.

## Research Reports

The research report is a book-length presentation of the best of EPA s research findings. These reports are normally the most authoritative results of a research project on a critical area of interest in which the Agency is involved. A research report will fit into one of two broad categories: investigative or expository.

In a standard investigative report, results and conclusions, the evidence to support them, and the interpretation of that evidence are the most important inclusions. The background of the project and the methods used should support the results and recommendations. Structure the body of an investigative report as follows:

1. Introduction
2. Conclusions
3. Recommendations
4. Methods and materials
5. Results and discussion
6. References

In the introduction, focus on the hypothesis or problem that the study tests. Place the conclusions and recommendations before other matter in the body of an investigative report, because this allows the reader ready access to the full scope of the project. Methods, results, and discussion may be interwoven or addressed separately, as logic dictates.

An expository report sheds additional light on a topic or an area of high interest about which information is lacking. It is more informal and discursive in nature than an investigative report in the sense that its structure is not bound by the scientific method. Its organization is, therefore, looser than that of the investigative report; however, where possible, use the same format elements as the investigative report.

Weigh the text of a research report in favor of explanatory copy, and do not include large volumes of backup and unedited data, repeatedly-used figures of government or other organizational forms, or verbatim reprints from or transcripts of other printed information sources (e.g., the Federal Register). These inclusions would detract from the classic format of the book, run up the cost excessively, and are more appropriately referenced as secondary sources than printed. Footnote or reference all background materials where appropriate to enable the reader to locate them in the library, through the national Technical Information Service (NTIS), or through the appropriate information databases.

The effective use of appropriate referencing and footnoting techniques is absolutely necessary to increase the credibility of the document and fulfill the purpose of the presentation. Careful documentation shows that a research project has been thoroughly investigated. Referencing systems vary among scientific disciplines. Whatever system you use, be consistent and make each reference complete.

## Project Reports

Most EPA research is documented and made available to the research community in a project report. Project reports are required when: (1) neither a journal article nor an EPA research report is produced or (2) the journal article or EPA research report published is incomplete in terms of fully documenting the project or would require additional background data to survive rigorous scientific challenge. NTIS is the major distributor of project reports.

## Manuals/Handbooks/User's Guides

In preparing these materials, use straightforward and precise language. To ensure that concepts or procedures are clear, use tabular material and graphic illustration as needed. Three types of application guides are described below.

- A *manual* is a comprehensive description of a technology (to solve an environmental problem). It guides users through creation, construction and maintenance of a technology or technique.
- A *handbook* is a collection of information, statistics, data and techniques that are accurate and relevant to a particular subject area.
- A *user's guide* explains and describes, step by step, how to employ a procedure, piece of equipment, model or program.

Limit the contents of the work to that information required to inform the reader. Eliminate unnecessary details, appendices and pages to reduce primary and secondary reproduction costs and to expedite review, approval, printing and distribution.

## Fact Sheets

Fact sheets are used to provide information about an issue, project or activity to someone who might have limited knowledge of the subject. They should be limited to one or two pages in length and focus on highlights or the issues of highest importance.

Acronyms, jargon and technical terms should be avoided. If such terms must be used, define them first. Write clearly and use bullets as appropriate. Assume the reader will not have a technical understanding of the issues at hand; write as if presenting a talk to non-experts, not for a journal article.

While these are not requirements, here are some content suggestions based on the rather particular nature of fact sheet use:

- What is the issue or what is being studied?
- What are its uses and significance?
- Why was this research conducted?

- What organizations are involved in the issue or study? How was the study conducted?
- Provide a brief, non-technical description of the study while avoiding procedural details.
- What are the major milestones and what are the next steps?
- When appropriate, what health concerns are there?
- What are the policy implications?
- How are the results or conclusions being used by the Agency in policy?
- Title of the report or journal article, expected online and print publication date, and any other relevant information about the publication.
- Contact person and telephone number.

## Proceedings

A proceedings report is usually derived from the presentation of a paper and from the questions, answers, and general discussion at conference sessions.

If the paper has resulted from an EPA-funded project, include the following in a prominent location:

*This paper has been reviewed in accordance with the U.S. Environmental Protection Agency s peer and administrative review policies and approved for presentation and publication.*

## Journal Articles

EPA encourages the publication of research results in the open scientific literature. In academia, government and the private sector, the independent peer review achieved through the journal article publication process enhances scientific credibility and contributes to the establishment of scientific excellence. Each journal has its own style and requirements that must be observed when articles are prepared and submitted.

## Book Chapters and Published Papers

Publication of research as a chapter in a volume addressing an area of environmental protection usually offers an author space not available in a journal article for the inclusion of additional data or information. Chapters also are used frequently to provide a review of the state of knowledge in a scientific or technical area of environmental importance.

Published papers or articles allow researchers to communicate at the peer level and attain visibility and credibility for EPA. A paper is the written text of a presentation delivered before a scientific peer group. It becomes a published paper subject to EPA peer review if it will appear as one of the following:

- A preprint (a handout given before proceeding starts)
- A paper in another organization s proceedings, or
- An article in a non-peer-reviewed journal or book published outside of the Agency.

The book editor or the organization sponsoring the proceedings may provide instructions for chapter or paper preparation.

## Print Promotional and Collateral Materials (see Glossary: Collateral Materials)

This is a large and general category that includes the familiar public items such as brochures, pamphlets and posters.

The materials in the general category of folder (i.e. folded material) are usually printed in landscape (horizontal) orientation on one of two paper sizes: (1) 8-1/2 by 11 inches, folded twice to provide three panels; or (2) 8-1/2 by 14 inches, folded three times to provide four panels. Posters are typically formatted to finished sheet of 17 x 21 or 17 x 34 . Booklets and brochures are most often printed in portrait (vertical) orientation. This category of material requires the closest examination for effectiveness and cost-efficiency. It offers great possibility for creative expression, but must be scrutinized to ensure that a given aspect or element contributes to communications effectiveness beyond mere visual attractiveness.

## CD Duplication and Jewel Case Inserts

The contents of a CD must be reviewed, cleared and approved following the same guidelines as for any other official communication product. CD duplication/replication is done through GPO.

Two CDs are required: (1) one CD contains the files to be duplicated, and (2) another CD contains the printing files (for the CD label and jewel case inserts). A CD label must include the title, EPA logo with signature, EPA publication number and date. If the label is to be printed in more than two colors of ink, approval by the Agency Printing Officer is necessary before the CD can be submitted to GPO. If jewel case inserts are requested, the front insert is to include the EPA logo with signature, but the EPA publication number and date are not necessary. The bottom inlay with spines, is to include the EPA publication number and as much of the title as possible, on one line on the spine. If more than two colors of ink are required, approval by the Agency Printing Officer is necessary. Preproduction proofs of both the CD and any printed materials will be requested.

## Promotional Materials (durable goods items) (see Glossary: Promotional Product)

(For complete information about procedures and applicability, refer to EPA s Promotional Communications for EPA, Guidance for EPA Staff, May 2008, Office of Public Affairs.)

Contracting Officers or any other authorized purchasers may, under certain circumstances, purchase specialty items for distribution to the public and/or EPA employees if the item conveys an environmental message consistent with an environmental statute and/or is imprinted with a Program Office s URL (or information telephone number). The purchase must be supported by the necessary expense rule. This is a rule of appropriations law which states that an expenditure not specifically provided for in an agency s appropriation is permissible only if it is reasonably necessary to carry out an authorized function of an agency, or will contribute materially to the effective accomplishment of an agency s function, and is not otherwise prohibited by law. The item must be relatively inexpensive and have insignificant utility.

These promotional communications products must deliver a cogent, useful message to a targeted audience in an appropriate forum. Their purchase and use must conform to Federal laws and rules for purchasing, printing, ethical standards and use of appropriate funds. The message must be honest in every sense, and the criterion for usefulness and value is how well it serves the public interest.

If you are considering creating, producing, purchasing and distributing a promotional product, please assure the environmental soundness of the product, addressing such qualities as recycling/recyclability, non-toxicity, sustainable production methods, as well as health and safety properties, with a baseline of, at least, no environmentally-negative aspects.

## Promotional Giveaways with EPA Logos

EPA Printing Management Office apply the following guidelines: If the production method involves printing on paper, it must be submitted to the Government Printing Office (GPO).

For printing on material other than paper, you are encouraged to contact the Product Review Office at the earliest possible point of your planning for advice on how to proceed. For all other production methods (such as imprinting images and/or text on three-dimensional promotional items such as pens, coffee mugs, etc.), you are encouraged, but not required, to utilize GPO production services. You should compare the prices, product options, and delivery schedule available through GPO with other options including Lighthouse for the Blind, Blanket Purchasing Agreements that the Office of Acquisition Management has in place, etc.

If the production method is within the scope of the term printing, in all cases you are required to comply with GPO regulations. Failure to do so can be considered an unauthorized procurement. Employees will be held personally liable for all unauthorized procurements including those that do not comply with GPO regulations.

See Promotional Communications for EPA document (July, 2008) for approved promotional items and more information.

## Employee Business Cards

Pursuant to the Javits-Wagner-O'Day Act, any official procurement for employee business cards must be acquired from the National Industries for the Blind (NIB) through the Lighthouse for the Blind, Inc., which is an authorized contractor on GSA s Federal Supply Schedule. Thus, all orders must be submitted through GSA. Complete the procurement process at the Envision Print website.   EXIT Employees may only acquire 250 cards in any one transaction.

The business cards must have one-sided printing in either blue or black ink. The specifications for business cards require a minimum 100% recycled paper containing a minimum 50% post consumer fiber content, processed chlorine free, and printed with bio-based ink. In addition, the business cards must include a statement at the bottom declaring the card s recycled content specifications.

A low-volume user of business cards might, with supervisory approval, find it more economical and environmentally preferable to produce business cards on personal computers. The above specifications for format, paper, ink, and recycling statement must be followed.

## Letterhead and Envelopes

CFR 41, Federal Property Management Regulations, specifies what weight, color, size and grade of paper and what color of ink are to be used for Government stationery. EPA Order 1015.2A, EPA Seal and Agency Identifier, requires the use of the EPA seal on all official EPA stationery. Stationery may be printed for the following offices: Administrator, Deputy Administrator, General Counsel, Assistant Administrators, and Regional Offices. The Agency Printing Officer must approve any deviations from this list, including any revisions to existing stationery. No stationery bearing individual names is authorized.

To assure that all EPA stationery is consistent nationwide and to meet EPA s requirement for the use of 100% postconsumer fiber content recycled paper, processed chlorine free, using vegetable-based inks, EPA-Headquarters established a contract for printing all stationery. This stationery includes the EPA seal as a watermark and also a 100% recycled paper watermark, and as required on all EPA publications, includes the recycling paper statement printed at the bottom. Therefore, all requests for stationery must be processed by Headquarters.

Official envelopes must be printed through your local Printing Control Officer. All envelopes must contain the Agency identifier, return address, and the clause, Official Business Penalty for Private Use, $300. Unauthorized slogans or designs will not be used. All envelopes, except for Kraft envelopes, must also contain the printed on recycled paper logo and statement. Contractor use of the official EPA indicia on behalf of EPA must be approved by the Mail Management Branch, OARM, prior to entering mail into the USPS.

Official envelopes and labels used by contract mailers must bear the printed return address of the EPA organizational unit, not a private person, concern, organization or contractor. Any direct mailing done by a contractor is to be included as part of their cost within the contract or project.

## Poster Presentations

(NOTE: This refers to poster presentations as are typically done at symposia and conferences. Poster, as used here, does not mean the promotional print type of poster.)

All presentations must give the impression of being the work of EPA rather than of any particular Laboratory, Office, or Center. For instance, ORD presenters should use the term research and development at EPA rather than the Office of Research and Development especially when speaking to audiences outside the Agency. The intention is to downplay organizational divisions that are meaningless to outside audiences.

A presentation format should, in most cases:

- introduce the identifying presenter, audience, and date;
- include a fact sheet with employee, budget and facility data;

- include a statement of EPA s commitment to sound science as the basis for decision-making;
- include a discussion of high-priority EPA research areas;
- name and identify the Laboratory/Office/Center presenting the program; and
- include a starting page for the presentation.

PowerPoint is the suggested software for creating poster presentations; thus the colors are RGB values. Common sizes of posters are 48 x 36 , 30 x 40 or 40 x 30 . If an event-specific format is provided, then that particular format should be followed. Ideally, if a team of EPA staff is presenting at an event, it is beneficial for the team to choose the same format so that the suite of posters being presented by EPA has some unified look and feel.

A further way to strengthen the impact is to have all of the posters in the same color or color suite. The same style sheets and grids will ensure consistent typographic standards and page layout. All posters should have consistent placement of the anchor elements: the EPA logo with signature; EPA publication number, if appropriate; date; and Internet site address. All posters are to be reviewed and approved by your respective Region/Laboratory/Office management prior to presentation. If copies of posters are to be printed and distributed outside the Agency, the GPO printing rules and regulations are applicable.

## Audiovisuals

(NOTE: This addresses a very broad range both of creative and technical formats. Also, see preceding section for CD packaging and duplication guidelines.)

As used here, audiovisual encompasses that range of media and formats that involve words and/or visual elements that are conveyed by electronic or mechanical (i.e not printed) formats. It includes slide shows and similar presentations, videos, broadcasting and motion pictures. Those formats have much in common, but, most of all, they require scripting.

An audiovisual script is not merely the spoken portion of the finished presentation; it is also a written description of the:

- Visual presentation (ie: the pictures)
- Non-verbal audio (such as sound effects or music)
- Non-audio verbal (titles, credits, etc.)
- Key editorial and directorial elements (such as scenes that require transition by dissolve or fade)

If candid or ad lib interviews are to be incorporated, such that the exact words of the interviewee will not be known until production is done, the script should convey fully the anticipated direction of the interview. If the production is in a format that entails interaction by a presenter or audience members, the script should convey any direction that is needed in that regard. Even for non-visual media (radio, podcast, etc) a script must convey many elements beyond merely the words that are to be spoken.

An audiovisual script develops like any communications product concept, outline, rough draft, final. Actually, there are even more steps (see Glossary: scenario, treatment) to creating an audiovisual script than a typical text manuscript, but the

key point is that production should not begin until the script has been carefully developed as a concept and is written and fully approved.

When contracting for script writing services with an outside vendor, it is the responsibility of EPA to provide the writer with a full written narrative of the concept, content and desired outcomes.

A well written, tightly edited script does not limit creativity; it possesses it; advances it. It is the chief source of creativity in a production. Good script writing greatly improves the efficiency and effectiveness of pre-production and production phases. In fact, one of the leading reasons to make the script as complete as possible is the cost-efficiency that it creates in production.

Scripting is addressed in this section Production, as opposed to the Writing section for two reasons: 1. As noted above, a script must have more than verbal communication to the audience. It must contain information about producing the show. A script is, in effect, written instructions for how to produce the show. 2. There is very little about the writing style of a script that does not conform to the general principles and ideas that are stated in the Writing section.

Pre-production essentially involves envisioning the finished program and thinking backwards through the steps that will be needed to create the product. If, for example, a set must built, props purchased, equipment rented, visual effects created (even simple ones like illustrations) the process for doing any of that must be anticipated. The script will identify many of those elements, but by the dozens they must be prepared.

Each of them might, in turn, require more process steps. For example, if a set must be built, it must first be designed. Before being designed, it must be conceived. Those things might be purchased a la carte or written into a general production contract, but in any case must be known in advance.

Unlike publishing there is no standard set of technical steps to which every production must conform. Even within a specific genre of production, the elements that will be at the heart of any of its creative aspects by the very nature of being creative will be different from previous programs. Becoming familiar with basic technical, creative and production formats is the first, good step.

Creative and production formats that can be / have been used to present EPA material include:

- Educational / training (incorporating lecture, demonstration, text material, etc)
- Dramatized presentation (fictional story presentation, illustrating real-world situations)
- Educational documentary (the most often used format in EPA audiovisuals)
- News documentary
- Panel discussion / interview (ad lib / candid, scripted or elements of both)
- Animation
- Games (video games or Q&A contests, interactive or passive)

A public service announcement can employ any of the above, but has (among other elements) a very tight time stricture.

Technical formats can involve multiple formats simultaneously, but in simple form include:

- Radio
- Television
- Film / tape / disc
- Satellite direct link (as well as broadcast transmission via satellite)
- Podcast
- Videocast
- Slide show (formats can overlap greatly here from Power Point to line art to photography)
- Computer-based (e.g. from interactive data bases to games)

Any or all of the above can be incorporated into exhibits and displays.

There is another element that is involved in audiovisual production that is so different from other media that it might fairly be called unique distribution. The technical format that you use will greatly influence your effectiveness in reaching the audience. A couple of simple examples will make the point. Television is not a good medium to reach people with information that they need at work. Even the relatively small proportion of people who have televisions at their work-place do not watch intently much of the time. Computer-based formats will work for office-based audiences. Radio is often the most effective medium for rural audiences, if the right stations are targeted. It is practically a sign of our times that podcasting is an excellent format for younger audiences.

A final point. Most EPA audiovisual productions must conform to federal standards for accessibility under Section 508 of the Americans With Disabilities Act.

## Podium Signage and Camera Backdrops

Podium signage, camera backdrops, and other such products that incorporate the EPA logo should use the standard design of the EPA logo. Sizes are determined by the event requirements. There are many considerations for production of these items, but one general rule should always be understood the matter of scale and perspective is crucial. Something sketched on a plain piece of paper then enlarged to stage size, possibly then reduced again to television screen perspective will almost always appear different than it did in the sketch.

Blocked by a speaker and podium. Too small to fill the stage. Too large to be read by normal eye-sweep of an audience or to fit the frame of a television screen. Dealing with those and other considerations require considerable expertise and thought.

## Exhibits and Displays

This category of communications products comprises a huge number of formats and materials from table-top placards to three-dimensional structures that can be the size of a small house. From a true communications perspective the core principles for creating exhibits are those of all other media: Know your audience. Have a structured message, preferably as part of a strategic communications plan. Create a product that is in an appropriate medium and format for that audience and message.

The medium of an exhibit does, of course, have a unique characteristic: it is a physical place. It can be a park or transit stop but is most often a room in a building where people are gathered a convention hall, classroom, store, gallery or visitor center, but that does not make it any more or less a communications product. It is too easy to think of it merely as a device to get attention, and that once it fulfills that function, the real communication is done in some other way. Yes, an exhibit does have an attractive function, but so do all communications. That does not diminish the need to create a headline (whether it might seen from 100 feet away or 5 feet away) that advances your campaign theme. Pictures and illustrations should tell a story, not just decorate an empty space. An exhibit is, in most cases, a type of multi-media format. That offers great creative opportunities, but it also demands more disciplined thinking than other formats do, because there are more variables to consider and to integrate.

Key production considerations include:

- The EPA seal or logo must be
    - Of a high resolution
    - Clearly visible from the distance from which we expect the display will be commonly viewed
    - At least as big as any partner logos also appearing on the display
- Consideration of the limitations and requirements of your display space (and potential future display spaces) when designing your display

*Encouraged:*

- Removable panels that can be updated as information changes. This greatly extends the life of many displays.
- Display heads that are a topic, not an office name. For example, instead of Office of Solid Waste and Emergency Response , a good heading name might be Cleaning Up America s Land.
- Text that is readable at a distance from which we expect the display will be commonly viewed. There are instances in which we might want to use smaller text to provide more detail, but not usually.
- Simple, brief text. Displays are commonly browsed, not read.
- Elements should involve visitors physically to talk with the staff at the display, view information and take other information products upon leaving.
- Before-and-after photos. These are popular and are a great way of illustrating progress.
- Unusual projects that incorporate innovative techniques. Such projects often make for interesting displays.
- Topic-relevant environmental tips. Incorporating useful tips gives people a reason to read your display. EPA displays a re often targeted towards audiences that have an interest in such things.
- Use of blue and green as the primary colors in your color scheme. These colors are commonly associated with EPA and are typically associated with clean air, land, and water.

*Discouraged:*

- Flow charts. They are bureaucratic and not commonly read or understood.
- Any text not readable from about five feet away. Very few people will walk right up to your display and read a full page of text.

- Office names as display titles. As explained above, topic-based titles are preferred.
- Displays that are only aesthetically pleasing, providing no information about any topic. Displays composed of only a title and a photo collage are not particularly informative and generally fail to attract attention.

*Disapproved:*

- Use of pictures that contain any of the following characteristics:
  - Copyright is not owned by EPA and permission to use the photo has not been granted, in writing, to EPA;
  - Any child under the age of 14 appears in the photo and permission to use the photo has not been granted in writing by the parent or guardian of each child appearing in the photo;
  - A child or children under the age of 14 appears in the photo and the child s geographic location is identified in any manner more specific than by state (e.g., it is permissible to have a photo with the caption Children in a California school , but not Children in a San Francisco school. ).
- Removable display panels that do not match the look and feel of other panels in the display.
- Non-partner logos.
- Photos that are not clearly visible at the distance from which we expect the display will be commonly viewed.

# Processes and Forms for Print Publishing

## Product Review

When you send a public communications product to EPA Printing Management for production they will ask you to verify that it has been approved for production through EPA product review. Without that clearance they will (in most cases) refuse to print the piece. Learn any/all details about product review.

The software system that tracks work through the product review process is called New PROTRAC. It will

Yield a form which will validate your approval. It is helpful to include that form with your printing request.

Products that are subject to Product Review are public communications products, understanding that public means any audience outside EPA, including other federal agencies, but several types of publications are excluded. They include:

- Ordinary correspondence (e-mail or postal)
- All strictly legal or strictly legislative documents, including legal notices and notice of public hearings
- Internal EPA communications
- Peer reviewed papers, or papers for submittal to scholarly journals
- Proceedings (if they are verbatim transcripts, in part or whole) of a meeting or conference

- Official guidance documents offering EPA guidance on matters of public policy, regulatory interpretation (NOTE: calling something guidance does not make it a guidance document)
- Technical documents (NOTE: technical document means: A communication which requires a specific educational or professional background for the audience to understand substantially and substantively the meaning that is being conveyed. Neither the size or nature of the audience, nor the general nature of the subject matter relates to that definition. The operative element is the susceptibility of the communication to being understood by the intended audience.

## Peer Review

Peer reviewed documents require substantial record keeping, to qualify them for publication.

This table outlines one good example from the leading EPA producer of such work, ORD.

| Product Category | Description | Examples | Review | Record Keeping |
|---|---|---|---|---|
| | | | | |

| Product Category | Description | Examples | Review | Record Keeping |
|---|---|---|---|---|
| Category 1 Major Scientific or Technical Work Products | Products that meet one or more of the Major Scientific or Technical Work Products Criteria | 1. Dioxin reassessment<br><br>2. Air quality criteria documents | 1. Internal EPA expert review (could include experts from ORD, program and/or regional offices)<br><br>2. External panel peer review (including meeting)<br><br>3. Review by AA/ORD<br><br>4. AA/ORD sign-off* | 1. Copy of draft report submitted for external review<br><br>2. Charge to external reviewers<br><br>3. List of external reviewers<br><br>4. Written comments from external reviewers<br><br>5. Report of external panel<br><br>6. Response to external review<br><br>7. Final work product |

| Product Category | Description | Examples | Review | Record Keeping |
|---|---|---|---|---|
| Category 2<br><br>Important Scientific or Technical Work Products | Work products that are important to EPA decision making and do not fall into Category 1, e.g., work products that might not have an immediate impact on current or pending regulations or policy | 1. Methods manuals<br><br>2. Chemical-specific assessments<br><br>3. Air quality and deposition models<br><br>4. IRIS documents | 1. Internal EPA expert review (could include experts from ORD, program and/or regional offices)<br><br>2. External panel peer review (including meeting)<br><br>3. L/C/O director sign-off | 1. Copy of draft report submitted for external review<br><br>2. Charge to external reviewers<br><br>3. List of external reviewers<br><br>4. Written comments from external reviewers (independent report if one is prepared)<br><br>5. Response to external review<br><br>6. Final work product |
| Category 3<br><br>General Scientific or Technical Work Products | Publication in recognized peer-reviewed journal or similar publications | 1. Journal articles<br><br>2. Proceedings of symposia, conferences etc., that are peer reviewed<br><br>3. Book chapters | 1. Peer review by journal<br><br>2. Division director sign-off | 1. Final work product |

| Product Category | Description | Examples | Review | Record Keeping |
|---|---|---|---|---|
| Category 4<br><br>Other Scientific or Technical Work Products | Scientific or technical reports published with an EPA or ORD imprimatur that do not fall into Categories 1-2 | 1. Project reports<br><br>2. Technology transfer handbooks | 1. Internal review by lab personnel<br><br>2. Division director sign-off | 1. Draft submitted for internal review<br><br>2. Written comments from reviewers<br><br>3. Response to reviewers comments<br><br>4. Final work product |

## EPA Publication Numbering System

When EPA was formed in 1974, a publications numbering system was developed to track and disseminate technical documents, which fulfilled the requirements of CFR Title 44 for departmental distribution of government publications. In 1992, this publications numbering system was expanded and became an Agency-wide numbering system and included both scientific and public-oriented publications. The system was designed to be applicable to all products (publications, disks, films, etc.) that are intended for distribution outside the Agency. As of 1992, every product produced by the Agency is to be assigned a publication number. The EPA publications numbering system is maintained by OARM s National Service Center for Environmental Publications (NSCEP); obtain an EPA publication number.

## Structure of the Publication Number

The publication number consists of an alphanumeric designator identifying: the AA/RAship, Office within the AA/RAship, publication type, year of publication, sequence number and, as necessary, an indicator of volume number for publications bearing identical titles.

A sample number looks like this: EPA/201/N-08/123b

The EPA is required for clear identification on multi-agency publications, computer disks, and other items where ownership might not be obvious. For consistency, it should be used on all products. The prefix does not, however, appear in the NSCEP database.

The number itself has six elements, labeled a through f for explanation purposes.

| a | b | c | d | e | f |
|---|---|---|---|---|---|
| 20 | 1 | N | 08 | 123 | B |

a. 20 - The first two digits signify the organization responsible for producing the publication. The proper code for the organization is selected from the Office Identification Codes listed below. Note that the larger and more complex Offices have from three to six possible identification codes.

b. 1 - This single digit is assigned to a specific Office within the organization at the discretion of that Office s management, in coordination with NSCEP. In the above example 201 number, the 20 signifies the AA for Administration and Resources Management and the 1 might indicate the Office of Administration.

c. N - A single letter identifies the type of information product. These codes are assigned using the Priority Order also listed below. For example, a compilation of Federal Register notices stored on a computer disk would be given type code C because the computer entry is listed before the Federal Register entry in the Priority Order. The main purpose of these codes is to give librarians and inquirers an idea of what they are looking for before effort is expended on the search. Everyone seeking computer disks only could do a search on the code C . The codes have numerous other uses, such as allowing a computer to exclude draft and unpublished documents when searching a list of publications on a certain topic. In the above example, N signifies a periodical.

d. 08 - The calendar year of publication.

e. 123 - A three-digit number (001 through 999) will be assigned by NSCEP. The number starts with 001 on each January 1st and increases by one for each new publication. Contact NSCEP at http://cincinnati.epa.gov/services/nscep/nscep_form.asp to obtain this number or contact your Office/Laboratory Technical Information Manager.

f. b - An expander to the publication number is assigned to indicate multiple volumes only. (Volume indicators are not used for single volumes. Therefore, if there is a b there must be an a .) This is a lower case letter with one exception: a capital F can be used to indicate a Final public-comment draft.

## Office Identification Codes

10: Administrator, Deputy Administrator

11: Administrative Law Judges

12: Science Advisory Board

13: Cooperative Environmental Management

14: Congressional and Legislative Affairs

15: Civil Rights

16: International Activities

17: Communications, Education and Public Affairs

18: Small and Disadvantaged Business Utilization

20-22: Administration and Resources Management

23: Policy, Planning and Evaluation

27: Regional Operations and State/Local Relations

30-34: Enforcement and Compliance Assurance

35: Office of Inspector General

36: Office of General Counsel

40-45: Air and Radiation

50-55: Solid Waste and Emergency Response

60-65: Research and Development

70-75: Prevention, Pesticides and Toxic Substances

80-85: Water

901: Region 1

902: Region 2

903: Region 3

904: Region 4

905: Region 5

906: Region 6

907: Region 7

908: Region 8

909: Region 9

910: Region 10

930: Central Regional laboratory, MD

## Type Codes in Alphabetical Order

A: Article reprinted from other publication, abstracts, book chapters, presentations

B: Reference (Glossary, Bibliography, Symposium Papers, Training Guides, Telephone Dir., etc.)

C: Computer (CD-I, CD-ROM, Floppy Diskette, etc.)

D: Draft

E: Exhibit, Display, Booth

F: Unbound Publication (Fact Sheet, Leaflet, Bulletin, Flyer, Brochure, etc.)

H: Photograph, Filmstrip, Slide, Poster, etc.

J: Peer-reviewed Journal

K: Bound Publication (Booklet, Pamphlet, Speech)

M: Microfilm, Microfiche

N: Periodical (other than peer-reviewed journal), Journal, Newsletters

P: Public Comment Draft

Q: Unpublished

R: Report, Symposium Report, Proceedings

S: Summary, Research Brief, Conference Summary, Issue Paper

U: Audio

V: Video

X: Internal

Z: Federal Register

## Type Codes in Priority Order

Assign codes in the following sequence:

E: Exhibit, Display, Booth

C: Computer (CD-I, CD-ROM, Floppy Diskette, etc.)

V: Video

U: Audio

M: Microfilm, Microfiche

H: Photograph, Filmstrip, Slide, Poster, etc.

A: Article reprinted from other publication, abstracts, book chapters, presentations

Q: Unpublished

Z: Federal Register

J: Peer-reviewed Journal

N: Periodical (other than peer-reviewed journal), Journal, Newsletters

X: Internal

B: Reference (Glossary, Bibliography, Symposium Papers, Training Guides, Telephone Dir., etc.)

D: Draft

P: Public Comment Draft

S: Summary, Research Brief, Conference Summary, Issue Paper

R: Report, Symposium Report, Proceedings

F: Unbound Publication (Fact Sheet, Leaflet, Bulletin, Flyer, Brochure, etc.)

K: Bound Publication (Booklet, Pamphlet, Speech)

## Cataloging

EPA needs to maintain an up-to-date inventory of information products for three reasons: 1. A catalog of publications, videos, CDs, etc., is an essential tool in fulfilling EPA s obligation to provide information to the public. 2. The Office of Management and Budget requires all federal departments to maintain an electronic inventory of publications. 3. Publication coordinators, communications planners, printing officers, and others need accurate data to make sound managerial decisions.

EPA's National Service Center for Environmental Publications (NSCEP) maintains a Web site to access EPA's publications, which currently has more than 7,000 in-stock and 27,000 digital titles. EPA s printed publications (hard copies) are available through NSCEP, and EPA's digital publications are stored in the National Environmental Publications Internet Site (NEPIS) database, were publications can be searched, retrieved, downloaded printed and/or ordered. NSCEP also has the responsibility for archiving all of EPA s publications and assuring their availability in all EPA Libraries.

# Technical Guidelines for Print Publishing

There are numerous technical guidelines for print publishing. They cover the topics immediately below.

## Camera Copy

If a document will be printed in one ink color, it may be printed from camera copy or electronic files, as described below. Camera copy should be submitted (one copy) if a product will be printed in one ink color. It should be submitted on 8 x 11 white paper with text and graphics printed out in laser printer quality with

black ink. Tables and graphics (figures) should be one color with crisp lines and text. Page numbers are generally located at the bottom of each page that has an image or text on it.

## Electronic Files

If a document will be printed in two or more ink colors, it must be printed from electronic files.

Two types of electronic files are appropriate if printing will involve two or more ink colors:

- Electronic Design and Prepress Files and
- High-Resolution Portable Document Format (PDF) files.

Files created in Office Graphics software (e.g., Microsoft Word, PowerPoint, WordPerfect, Harvard Graphics) and PDF files created specifically for web use should not be used for print publishing due to resolution, color, and other issues.

## Electronic Design and Prepress (EDPP) Files

The native application programs listed below are used to create a majority of the print publishing work received by the Government Printing Office. They are also the preferred programs of the commercial printing industry because they support design and prepress functions. Files created using these programs output with fewer problems than files created in programs not designed for print publishing. Other programs may be used, but unless they support prepress functions (e.g., PANTONE colors, trapping, bleeds, crop marks, all type fonts and color separation), problems will likely occur. Customers who use programs other than those listed should consider supplying high-resolution PDF files instead.

Documents are printed from native application files (files used to create the document). Along with the native files, all supporting information must be furnished on disk/CD ROM to the printer. For example, if a figure created in Adobe Illustrator has been placed in a PageMaker document, the electronic Illustrator file and all related information must be included on the disk. If properly placed, these images are linked to the PageMaker document and will print smoothly. If a problem arises, the files can be accessed by the printer and printing will not be interrupted.

EDPP files should be created from the following preferred Windows platform native applications:

- Page Layout: QuarkXPress, Adobe PageMaker, Adobe FrameMaker, Adobe InDesign, Corel Ventura, Microsoft Publisher 2000*
- Drawing/Illustration: Corel Draw, Macromedia FreeHand, Adobe Illustrator
- Image Manipulation: Adobe Photoshop, Corel PhotoPaint

## High-Resolution PDF Files

High-resolution Portable Document Format (PDF) files can take the place of EDPP files for printing. These files are designed as self-contained, platform-independent files and, if created properly, could eliminate many common prepress problems. PDF files should contain embedded fonts, graphics, color, data, and

layout structure. PDF files for press output must be created using the appropriate settings in Acrobat Distiller, not through the PDFWriter. PDF files created using the PDFWriter are not acceptable for print publishing.

## How To Submit a Document for Printing After Peer Review and Office/Laboratory Clearance Approvals

Authorized organizations for printing EPA Publications (EPA Printing Management Circular 94-1) include the following:

*In-house:* OARM, Facilities Management and Services Division, Mail Management Branch/Document Production Team, Washington, DC: All EPA single-color printing jobs of fewer than 60,000 impressions (single or multi-page sheets printed in one cycle).

*GPO (Government Printing Office):* OARM, Facilities Management and Services Division, Printing Control Officers, Regions and outlying EPA facilities: all print jobs, including multi-color publications, and all CD-ROM and computer floppy diskette production.

Although contractors might develop EPA publications, they may not provide any printing services under the contract. Duplicating services are allowed (up to specified quantities for draft and incidental copy needs under the contract), not for publishing final products for public distribution. Contractor-produced publications are subject to the product development and approval process starting at the concept stage.

## Document Preparation for Printing

- Any software application can be used to develop documents to be printed in one color from camera copy.
- Documents to be printed in two or more colors should be created using desktop publishing software.
- If a document to be printed from electronic files is created in a software program other than desktop publishing software, the resulting end product could be of a lesser quality.

## Requesting a Cost Estimate from your Local Printing Control Officer

*Printed product:* Provide the number of pages in the document and quantity required, camera copy or electronic files, and any special requirements, such as color processing, shrink wrap, three-hole punch, rush delivery, etc.

CD ROM duplication: Provide the quantity required, disk label and jewel box printing requirements, size of files to be copied, shrink wrap, etc.

## Required Forms for Printing from Camera Copy

- EPA Form 2200-9, Printing, Distribution, and Inventory (available on Web Forms)
- GPO Form 3868, Notification of Intent to Publish (available at http://www.gpo.gov/forms/index.html)

- Camera copy (laser printer quality, black ink on white paper).

## Required Forms for Printing from Electronic Files

- EPA Form 2200-9, Printing, Distribution, and Inventory (available on Web Forms)
- GPO Form 3868, Notification of Intent to Publish (available at http://www.gpo.gov/forms/index.html)
- GPO Form 952, Desktop Publishing Disk Information (available at http://www.gpo.gov/forms/index.html)
- CD containing electronic printing files
- Two laser visual/output copies of the entire document printed from files that will be used for printing
- If more than two colors of ink are used, include e-mail approval from the Agency Printing Officer.

## Journal Article Publishing and Printing

As stated in EPA s Printing Manual, 7/25/94,

> "the Comptroller General has held that the purchase of reprints of articles that were prepared by Government employees as a part of their official duties, but were published in non-governmental publications, is the same as procurement of Government printing. Reprints of such articles must, therefore, be procured under requirements established by the Joint Committee on Printing (JCP) in the Printing and Binding Regulations, i.e., all printing must be procured through GPO. The JCP granted EPA a waiver of the Government Printing and Binding Regulations. The waiver grants EPA permission to pay page charges and to purchase separate copies of the articles directly from the private publisher at the time of their publication."

This waiver was granted with the condition that an annual report be submitted to JCP which lists all pertinent publishing and cost information. This report is prepared by the Printing Control Officer in each EPA location. Thus, the Printing Control Officer must approve and keep documentation on each request for journal article page charges and reprints.

## Page Charges

NOTE: Scientific and technical associations customarily charge the author a fee for each page that is published in their journals.

Scientific and technical associations customarily charge the author a fee for each page that is published in their journals. These page charges generally range anywhere from $18/page to $75/page for black and white printing, and as high as $950/page for color printing. Quite often, 50 free reprints are offered to the author by the journal. As stated in EPA s Printing Manual, Official writing published in a private journal is in the public domain and thus not protected by the journal s copyright. Therefore, the author cannot approve the transfer of copyright to the journal association.

The forms needed for authorizing black and white page charge obligations are:

1. EPA Form 1900-8, Procurement Request/Order, or a similar form if using bankcard, and
2. Journal s order form that gives the article title, number of pages in the article, volume no./manuscript no., etc.

These two documents, with signatures and accounting information, are to be submitted to the Printing Management Office for processing and approval.

Articles that are printed in more than two colors of ink require special approval, just like any other printed materials. Approval for these page charges must be obtained from the Agency Printing Officer. You can e-mail your request to him, providing an appropriate justification, i.e., color is needed for clarity of the scientific data being presented, object identification, etc. His written approval must be included with your procurement request.

The forms needed for authorizing color page charge obligations are:

1. EPA Form 1900-8, Procurement Request/Order, or a similar form for bankcard,
2. Journal s order form that gives the article title, number of pages in the article, volume no./manuscript no., etc., and,
3. Written color approval from the Agency Printing Officer.

These three documents, with signatures and accounting information, are to be submitted to the Printing Management Office for processing.

## Reprints

At the present time, the Office of General Counsel (OGC) is making a determination regarding the legality of EPA reprinting journal articles directly from the published article. Controversy exists because when we reprint it from the published article, EPA would be printing the Journal s format, type-setting, publishing name, etc., and this could be a possible infringement on their copyrights. Until we receive further guidance from OGC, the policy outlined below is being used by all EPA offices.

OGC stated that EPA can, however, print the edited version of the manuscript (not the article) with our own format, adding a specific citation such as Published in the... Journal or As submitted to the... Journal or Accepted by the... Journal or As appeared in the... Journal.

## Printing Through GPO (Black/White Only)

EPA can print the article through GPO, exactly as it appears in the published journal, only with a copyright release from the Journal. The forms needed are:

- Camera copy (Xerox of article taken from the Journal),
- Printing, Distribution, and Inventory, EPA Form 2200-9, and
- Xerox copy of the copyright release received from the Journal association.

The turnaround schedule for receipt of the printed article is usually about 3-4 weeks.

### Purchasing Directly from the Journal (Black/White Only)

EPA can (normally) only purchase the reprints directly from the Journal if the reprints can be printed on recycled, uncoated paper. The originator must contact the publisher and verify the use of this paper. A statement verifying this must be included on the Procurement Request/bankcard form. EPA s Agency Printing Officer has issued a policy that coated/ litho-coated paper is unacceptable for EPA s use because it is not recyclable.

If the Journal s publisher uses coated paper only, you have two choices: (1) print the article through GPO after obtaining a copyright release from the Journal, or (2) purchase the reprints from the Journal after obtaining written approval from your Printing Control Officer (PCO) for use of litho-coated paper.

To purchase reprints directly from the Journal, the following items are needed:

- EPA Form 1900-8, Procurement Request/Order, or a similar bankcard form (include recycled paper statement),
- Journal s order form that gives the article title, number of pages in the article, volume no./manuscript no., charges for reprints, etc.
- Written approval from your PCO for use of litho-coated paper, if applicable.

### Purchasing Directly from the Journal (Containing More Than Two Colors of Ink)

If the article is to be printed in more than two colors of ink, written approval from the Agency Printing Officer must be obtained before any reprints can be purchased/printed, either from the Journal or through GPO. Generally, an article that is printed in two or more colors cannot advantageously be reprinted through GPO nor can the document be reprinted in black and white as opposed to color printing. Therefore, all such reprints need to be purchased through the Journal. If litho-coated paper is the only paper the Journal uses then this too needs to be approved by your PCO.

To purchase reprints containing more than two colors of ink, the following items are needed for purchase from the Journal:

- EPA Form 1900-8, Procurement Request/Order, or a similar bankcard form (include recycled paper statement, if applicable),
- Journal s order form that gives the article title, number of pages in the article, volume no./manuscript no., charges for color reprints, etc.
- Written approval from the Agency Printing Officer for purchasing color reprints, and
- Written approval from your PCO for use of litho-coated paper, if applicable.

# Key Printing Questions

### Whom do I call to get a price estimate?

For Washington, D.C., contact the Agency printing officer. For the regions and outlying laboratories, contact your respective printing control officer.

## What colors of paper are available, and what colors of ink can I use?

The Joint Committee on Printing has designated several paper weights and colors for federal government printing. However, EPA requires that paper stock for all EPA printing and copying must contain a minimum of 50 % post-consumer fiber content, processed chlorine-free, using vegetable-based ink (see paper standards for publishing and duplicating). Since it is expensive and time consuming to obtain recycled colored paper, EPA prints the majority of its documents on white paper using colored ink. The Pantone Matching System is used for reproducing ink colors. Over 1,000 ink colors are available. The ink color guide also is available from your local Printing Management Office. When using more than three colors of ink on a page, four-color process must be used.

## Do I need any special approval to use more than one color of ink?

Your local Printing Control Officer has the authority to approve the use of two colors of ink. If more than two colors of ink are required for printing, a justification e-mail, approved by EPA s Printing Officer, must accompany the print package. Requests for approval should be e-mailed, with accompanying PDF file, to the Agency Printing Officer well in advance of submitting your package for printing.

## Can I design my own graphic logo for a particular area of research?

Program and office identifiers, or brands, other than the Agency seal or logo with signature, are discouraged and require approval by the Office of Public Affairs (OPA) before adoption. Approved brands must not be so large as to compete with the Agency s identification system or corporate identity. If another agency, research group, think-tank, university, partnership or company wants to reproduce the EPA logo for purposes acceptable to the Agency, permission must be granted by OPA, which will provide a copy of the logo.

## When does a copy center job become a printing job?

The Joint Committee on Printing has determined that if a job requires more than 5,000 impressions of any one page or 25,000 impressions of aggregate pages, it is considered to be an item of printing and must be obtained through the Government Printing Office, i.e., a document of 120 pages must be printed if more than 208 copies are needed (120 x 208 = 24,960 impressions). A contractor can never be a prime source for printing reports.

## I only need a small number of copies of a two-page flyer that has colored illustrations, and I need the copies within a few days. Can I go to Kinko s, for example, and have it copied?

All printing must go through the Government Printing Office. However, printing can be procured with the bank card for emergency (sole source) photocopy/print jobs not to exceed $1,000 if a waiver is approved in writing (memorandum or e-mail) by the EPA Printing Officer or a local Printing Control Officer (see waiver

procedures for emergency photocopying/printing services, Printing Management Circular, 03-03, August 2003). Color copiers, available in many EPA Copy Centers, can be used for a limited number of copies.

### How can I pay for journal article page charges and reprints? Can I use a bankcard?

Page charges and reprints can be purchased with a bankcard after obtaining approval (by submitting a Procurement Request form) from an EPA Printing Control Officer. The journal must print the reprints on uncoated, recycled paper. If litho-coated (shiny) paper is the only paper used by the journal, than a waiver must be obtained from the local Printing Control Officer.

### I want to prepare and send my four-color print job to print from a CD. What software is suggested?

Two types of electronic files are appropriate if printing will involve two or more ink colors: (1) files created in Electronic Design and Prepress (EDPP) applications, and (2) high-resolution PDF files. Examples of industry standard EDPP applications include Adobe InDesign, Illustrator, Photoshop, etc. Files created in word processing software (e.g., Microsoft Word, PowerPoint, WordPerfect, etc.) and PDF files created specifically for web use should not be used for print publishing due to low resolution, no support of color separation and definition and other issues (see How to Submit a Document for Printing).

### How do I know when to request proofs of a job before it is printed?

Whenever a job is printed from electronic files, a pre-production proof is always suggested. Even though the desktop printer in your office outputs a copy exactly the way you want it to be printed, an image-setter, used by the printing contractor to produce printing, could produce an output that varies considerably. Usually, a blueline/digital proof is requested for black and white print outputs, and a color-match proof is requested for color outputs.

## Top 10 Things You Can Do to Create Better Printed Documents

1. Decide which type of document you re creating:
    - Administrative or office documents that will be photocopied
    - Publications, brochures, and other materials that will be printed
2. Use a professional page layout program and software for projects that will be printed by commercial print contractors. Examples are:
    - Adobe InDesign
    - Adobe Photoshop
    - Adobe Illustrator
3. Use only printing inks in your document and its graphics, not RGB.
    - Pantone Matching System spot colors.
    - CMYK 4-color process ink colors (cyan, magenta, yellow, and black)
    - Grayscale (black and white)

4. For vector graphics (such as pie charts, logos and clip art), use the .EPS file format (encapsulated PostScript).
5. Create vector graphics with a professional PostScript-compatible drawing program.
    - Adobe Illustrator
    - Macromedia Freehand
    - CorelDraw
6. Photographs and other bitmapped graphics should use the .TIF file format and be set for 300 DPI resolution, or 2 x the line screen (Ipi) of the output device.
7. Use either PostScript or TrueType fonts in the document, but not both.
    - Remember the PostScript fonts are the printing industry s most widely accepted format.
8. Print your laser visuals on a PostScript printer that has the latest PostScript printer driver correctly installed on your workstation.
9. Print color splits from your desktop printer that simulate color film separations and check for these problems:
    - Duplicate PMS spot ink colors
    - Too many colors, or more colors than you planned for
    - Problems with bleeds, knockouts and overprints
    - RGB graphics that don t separate at all
10. Send all of the following to your local EPA Printing Office:
    - Files from the desktop publishing page layout program
    - Graphics and photo files
    - Fonts (.PFM and PFB for Windows PostScript, suitcase and printer file for MAC PostScript)
    - B/W composite printout from your laser printer
    - Color splits from your laser printer
    - Color composite printout from your color printer
    - Folding dummy for brochure and other items
    - Written instructions for the print contractor
    - GPO Disk Information Form 952

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