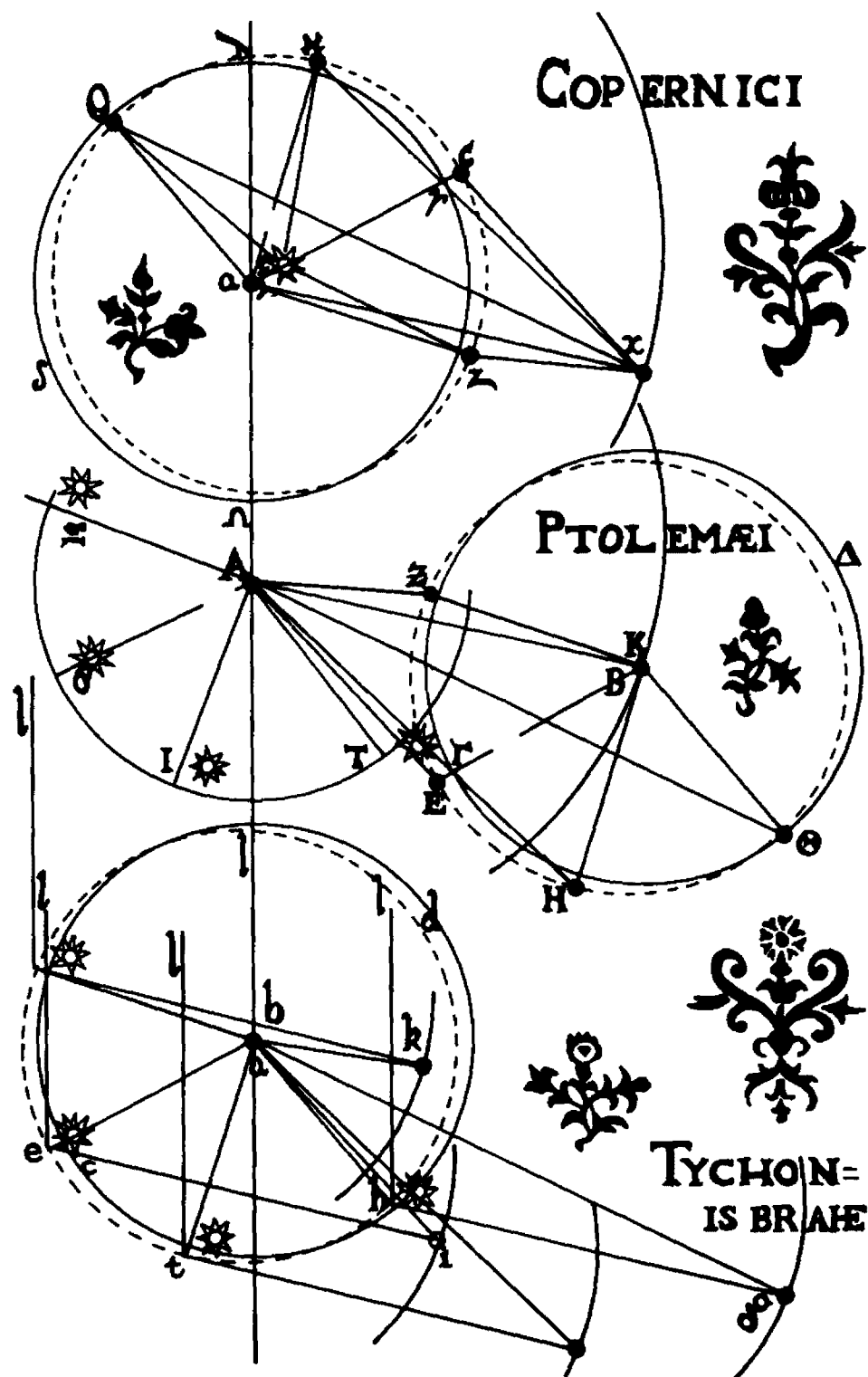




# ORD Technical Information Policy and Guide





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# ORD Technical Information Policy and Guide

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## ***Introduction***

Our primary mission in the Office of Research and Development (ORD) is to generate technical information which is key to the protection of environmental quality. Our information also influences national environmental policy. In this context, the way in which information is reviewed, tracked, packaged and distributed is as important as the way in which it is developed.

The descriptions and procedures set forth in the goals of this policy and guide are to create a rational structure for all of ORD's technical information products and to set forth clear-cut guidance for the peer review process. They are also intended to relieve researchers and research managers of many of the burdens of report formatting and editing, to improve the credibility of ORD by emphasizing journal publications and highlighting important research for distribution to targeted audiences, and to reduce the cost and overhead associated with first-line printing and distribution of less vital information.

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## **Technical Information Policy**

Part of the ORD technical information mission is *direct—the production of criteria documents, expert testimony and other inputs into EPA's regulatory process. Another part of this mission is achieved by indirect means.* Such means include journal articles, the production of scientific data to advance the state of knowledge, and the provision of manuals and guides for environmental managers.

The responsibility for communicating information rests ultimately with each EPA researcher. This is not to say that every EPA researcher must become an expert in communications theory and design. There are specialists within the organization who package information. It is, however, the researcher's responsibility to bring important findings to the attention of those whose charter it is to sift, package and distribute that information. This responsibility equals in importance the need to publish research information in the accepted professional manner.

EPA researchers and project officers should therefore know what types of information will result from their projects and should plan ahead to have this information reviewed and communicated in the most effective manner possible. Determination of the use and disposition of the data from each project should be an integral part of the planning for that project. With this kind of planning we will be better able to respond with effective communications packages in a timely manner.

**The Technical Information Guide** presents specific information on a product-by-product basis. It is intended to be a reflection of the overall policy.

It is the policy of the ORD that:

**A uniform peer review process will take place for scientific information published or presented in the name of the Agency and by ORD employees when they are acting in an official capacity:** Both project officers and senior management are collectively responsible for submitting all factual, scientific or informational documents prepared for publication and designed for public distribution to rigorous scrutiny. The peer review process applies not just to EPA/ORD employees but to contractors/consultants performing research or publishing statements on behalf of EPA/ORD. Peer review is to be performed on all of the following categories of information:

- written statements needed to satisfy a statutory or regulatory requirement
- books, manuals, handbooks, research reports, and presentations at conferences and symposia
- informational brochures or materials and newsletters or other periodicals
- publications by EPA employees proposed for outside journals other than those that incorporate peer review
- project reports and other materials filed with the National Technical Information Service (NTIS)
- contributions made to publications by interagency working groups where authorship is to be attributed to EPA or its employees (these publications should go through this peer review process or contain an adequate disclaimer)
- audiovisual materials designed to be released to the general public in other than a single presentation
- computer software designed for release to the general public.

Peer review is unnecessary for the following information products:

- Congressional testimony
- verbatim testimony from hearings
- Advance Notices of Proposed Rulemakings, proposed or final regulations subject to a formal comment period

- press releases approved by the Office of Public Affairs within the Office of the Administrator
- legal opinions, briefs, or memoranda, including initial, final or other decisions in quasi-judicial administrative hearings.
- *Federal Register* notices
- notices of public hearings
- Requests for Proposals
- criteria documents or other similar documents subject to a formal public comment period or review by the Science Advisory Board or the Science Advisory Panel
- advisory committee statements and reports
- materials generated on an employee's own time using private facilities and printed with the standard disclaimer
- *internal policy statements and memoranda*
- official Agency correspondence
- articles in peer-reviewed journals.

**Technical communications will be managed as a major ORD program:** The technical information program is to be managed with no less coherence and responsiveness than is expected from any other ORD program, and those who are answerable for technical information activities will have the authority and resources necessary to carry out that responsibility.

**The products of our research—technical information—will be tied closely to EPA's management reporting and program planning processes:** The products described in Technical Information Plans will, with few exceptions, be a comprehensive listing of all of the outputs agreed to via the planning process. These information products fulfill ORD's obligations incurred in the planning process and complete the research cycle.

**Every research project will be documented in an accepted professional manner:** It is a legal requirement that expenditures of public funds be documented. This should be done in one or more of the following ways: (1) through the publication of exceptionally important research results as an *EPA Research Report*, (2) through publication in a peer-reviewed journal, (3) through the submission of research *Project Reports* to the National Technical Information Service (NTIS) and publication of summaries of these reports as *EPA Project Summaries*, or (4) through the filing of an unpublished report, with written justification, at the Center for Environmental Research Information (CERI).

**Documentation of research will be tailored to specific audience needs:** When a major effort is planned, a specific audience or audiences should be targeted. The means for reaching these audiences should be planned for and budgeted.

**There will exist one point for access to information on all research products:** CERI will maintain title files of all of ORD's products and provide requestors either with copies of the documents or explicit references to NTIS or other appropriate sources when copies are no longer available from ORD. This facility will be the only formal report distributing operation within ORD.

**All printing of technical information documents will be processed through a central location:** All printing will be processed through CERI. The only exceptions to this policy will be certain technical newsletters, news releases, and document duplication as defined in Government Printing Office (GPO) regulations.

**There will be a designated Technical Information Manager (TIM) within each laboratory and major operating unit:** The most appropriate individuals to monitor the development of sources of research information are within the laboratories and major operating units. They are responsible for initiating most information products and for ensuring adequate review of the scientific content of all of those technical information packages related to their program area. One individual is to be designated within each laboratory and major operating unit, with authority to coordinate all technical communications products within the purview of that laboratory or operating unit. In addition, each Office Director (OD) shall name one Technical Information Program Manager (TIPM) to provide oversight for technical information activities within that OD's purview.



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**Communications and information transfer support will be made available to all operating units:** CERI will provide support for developing various information products. This group will also provide quality control of technical information products. Responsibility for content of ORD products will remain with the appropriate laboratory and office personnel.

**The emphasis of most of our research communications activities will be on issues, problems and solutions:** It is the function of ORD to address environmental problems and concerns and to avoid aggrandizing any organization. For this reason and based upon cost-effectiveness criteria, very few organizationally oriented information packages are justifiable.

**Existing information activities will either be used or abolished:** All technical information activities, especially recurring activities such as annual conferences or newsletters, will be periodically reviewed by the responsible ORD official (as defined in the Guide) to determine if they are cost-effective. If they are not, they will be cancelled. If an alternate mechanism would be more appropriate for meeting its stated objective, that mechanism should be substituted.

**Printing will be held to a minimum, and all GPO regulations adhered to:** Maximum use will be made of the peer journals and NTIS to document research and distribute results. The most paper- and energy-conservative course will be chosen commensurate with the effective provision of the information for our key audiences.

**Maximum appropriate use will be made of the EPA Office of Public Affairs (OPA):** Technical information products which may be of interest to the general public are to be handled in coordination with EPA's OPA. Like all other research information activities, such actions must receive appropriate policy clearance and be coordinated with CERI.

**All technical information products will convey a consistent image:** The information packages and services provided to each of our key audiences should be carefully developed and monitored so that each conveys an image of consistently high quality in a cost-efficient manner.

**Only those technical information products described in the Guide will be produced by ORD:** Where a technical information product is desired and it cannot be equated with any of the products listed in the Guide, specific authorization is required from CERI for that product to be *initiated*. Should a large number of similar exceptions be required, the Guide will be modified by CERI to reflect changing needs.

**Finally, and most importantly, nothing in the Guide will be interpreted to impede the effective and timely flow of technical information:** The goal of ORD's *Technical Information Guide* is to provide the structure for adequate quality and cost control while, at the same time, maintaining flexibility. Wherever the specifications in the *Guide* tend to disrupt efficient information transfer, this fact should be brought to the attention of the Director, CERI, so that an appropriate resolution can be worked out.

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## **Abbreviations Used in this Guide**

**AA**—The *Assistant Administrator for Research and Development* is the final authority on both ORD's technical information policy and the content of technical information products.

**CERI**—The *Center for Environmental Research Information*, located in Cincinnati, is responsible for the development of policy and coordination, printing and distribution of ORD reports. CERI also provides support services for ORD conferences, seminars, and workshops and plays a control role in the production of applications guides and in the quality assurance of ORD publications.

**OD**—The *Office Directors* review and approve technical information plans and outputs of their laboratories and headquarters offices. They ensure proper balance, adequacy of effort, and sensitivity to policy matters of the total technical information program.

**SA**—The *EPA Science Advisor*, in coordination with and at the request of the AA, is responsible for the scientific quality and policy review of "major" products emanating from the Office of Research and Development (ORD).

**TIM**—Each laboratory and office will have a *Technical Information Manager* who is responsible for developing and coordinating his or her organization's technical information program. The TIM will serve as the main link between the organization and CERI.

**TIP**—Every laboratory and office will, working through their TIMs and in cooperation with CERI and TIO, develop an annual *Technical Information Plan*. This plan will define the specific output committed to by their organization in earlier resource planning activities. The TIP will inform the OD's and the Research Committees of the timing and content of specific "deliverables" alluded to in resource planning documents. Prior to the beginning of each fiscal year, a TIP will be submitted by each laboratory to its OD for review and approval. Any major changes (added or deleted activities or significant schedule changes) to the TIP must be reviewed by the OD and/or TIPM.

**TIPM**—Each ORD Office Director will appoint a *Technical Information Program Manager* to review, monitor and advise the OD on the technical information programs of the laboratories under that OD's purview. The TIPM will review all technical information plans and all major modifications (added or deleted activities or major schedule changes) to these plans.

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# **Technical Information Guide**

**Introduction**    The four main goals of this guide are:

1. To improve the quality and flow of technical information in ORD.
2. To remove some of the burden of information packaging from researchers.
3. To tie research information products directly to management and program planning processes.
4. To reach the key audiences which need ORD information.

The first three goals are addressed in the policy itself. The fourth goal, however, deserves further discussion.

The key audiences for the information developed by EPA researchers may be categorized as follows:

- Environmental regulators
- Scientific and technical peer groups
- Technical applications community
- Environmental decision-makers

As communications packages are evolved, they should focus on one or several of ORD's key audiences. A short description of each of these audiences, along with an indication of the type of information needed by each audience, follows:

## ***Environmental Regulators***

Perhaps the most diverse, and certainly the most directly concerned client of EPA's research program is the environmental regulatory community. This community includes individuals within EPA's regulatory offices who must propose, monitor and recommend revisions to standards. It also includes the front-line regulators in the EPA Regions, the states, cities and other local governments. The needs of the environmental regulatory community shape ORD's research program. Their decisions and actions are in turn shaped by our research information. These individuals need accurate and legally defensible scientific data. They also need specifically targeted information ranging from the state-of-the-art overviews (the pollutant criteria documents which are the cornerstone of exposure standards) to more tailored information products such as expert witness testimony and technical support.

## ***Scientific and Technical Peer Groups***

In research there is a self-checking system which contributes greatly to improving both the quality and the utility of the effort. This self-checking process requires a high level of communication among scientists in the same discipline and among scientists in differing disciplines but working on the same problem. These groups rely on the unfettered exchange of information on research results to confirm and enhance the results of their own efforts. It is this process of investigation and interaction which produces reliable technical data.

The scientific and technical community needs information that is specialized and detailed. This information is normally produced through the peer reviewed journal and book publication process, through personal interchange and through presentations at various technical convocations.

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***Technical  
Applications  
Community***

The individuals responsible for implementing environmental pollution control regulations are dependent on the rapid transmission of information about technical breakthroughs in order to carry out their mission in the most cost-effective manner. While there are several non-governmental mechanisms available to carry part of this information transfer burden, these are not sufficient to ensure the rapid and effective implementation of environmental regulations. ORD facilitates this process by means of regional seminars and workshops, design manuals, handbooks, user's guides, technical summaries, and special publications.

***Environmental  
Decision-  
Makers***

Federal policies and regulations have a profound effect upon the nation's economic and social well-being. These policies and regulations are influenced by decision-makers within the Federal, state, and local governmental establishments whose responsibility it is to weigh all major impacts of alternatives before making a decision.

The opinions of the decision-makers are influenced by many forces. These individuals have little or no time to spend poring over the technical or scientific details of an issue. They rely upon the scientific community to present objective statements in a readily assimilated format. It does the decision-makers little good if the information they need exists but they cannot understand or use it.

The responsibility for making this information available lies with the research community. To ensure the relevance of our research, we must produce the types of summary information products which will be of use to the decision-makers. Such efforts require a combination of the highest degree of scientific knowledge and policy sensitivity with highly sophisticated communications skills.

## Management and Implementation

The management approach to our technical information activities distinguishes the development of sound *technical information* through the peer review process from the development of the *format and presentation* of the technical information products. It is the intent of this policy to ensure that qualified persons in each area, researchers and research managers in the former and technical communications specialists in the latter, be clearly responsible for their areas of expertise.

### Peer Review

The development of technical information is to be buttressed by a uniform peer review process. This process serves to ensure that ORD scientific and informational products are of high quality and based on creditable scientific and technical knowledge. ORD requires peer reviews for all reports based on two principles:

1. Review by a minimum number of objective and qualified peers.
2. Supervisory evaluation of the report and reviewers' comments.

Peer reviewers shall be selected from inside EPA by the author's immediate supervisor and may be selected from inside or outside EPA by the Laboratory Director (LD), OD, and AA. Reviewers may be selected individually or from a prearranged panel, at the option of the LD or OD for manuscripts originating in that organization.

All reviewers must be technically qualified. The minimally required reviewers must also be free of any involvement or relationship which affects, in fact or appearance, their ability to review the manuscript objectively. This does not preclude reviews by individuals with direct involvement in the project so long as these are in addition to the minimum set of reviews.

All reviewers must provide an in-depth professional review of the manuscript and answer the following questions:

- Should the manuscript be published as is?
- Should the manuscript be published with revisions? If so, which revisions are minimally necessary?
- Should the manuscript not be published? Why not?

The *author(s)/project officer* (herein called the *author*) submits the draft manuscript with an ORD Clearance Form to his/her supervisor. The *author* recommends at least two peer reviewers who should be specialists in the subject. The *author* may request that a reasonable review schedule be established to ensure timely processing.

The *immediate supervisor* evaluates the manuscript for scientific content and merit, inappropriate policy statements, and editorial quality. The *immediate supervisor* requests peer reviews from within the Agency, unless the *OD* or *LD* deems the use of external reviewers to be essential. Reviews may be performed simultaneously in order to reduce the time required.

*Peer Reviewers* submit signed reviews to the author's *immediate supervisor*, who transmits all reviews to the *author*.

The *author* receives the reviews and revises the manuscript. He/she is encouraged to discuss significant differences with reviewer(s). If manuscript changes are deemed necessary by any level of management or peer reviewer, the *author* incorporates the changes. The revision process is repeated until the *author* believes that the manuscript is ready for publication.

Reviews signed by *peer reviewers* shall be attached to the manuscript. In cases where the *author* is unable to resolve differences with a *reviewer*, the *author* is to explain in writing why significant recommendations have not been accepted, and the *reviewer* is to explain in writing why recommendations should be included in the manuscript. The statements also shall be attached to the manuscript package.

The *author* submits the package containing the revised manuscript, all comments with any explanatory notes, and an updated ORD Clearance Form to the *immediate supervisor*.

The *immediate supervisor* reviews the revised manuscript and the reviewers' comments. If the changes are deemed necessary, the manuscript is returned to the *author*, with the *supervisor's* review comments. When the *supervisor* believes the manuscript is of high quality, he/she approves the manuscript, signs the ORD Clearance Form, and transmits the manuscript package to the next level of supervision. The *supervisor* is accountable for the scientific quality and merit of each approved manuscript.

The *intermediate manager* (includes all management levels up to the LD) approves the manuscript package for technical soundness and policy content, as determined by laboratory procedure. If changes are deemed necessary, the manuscript is returned to the author for revision. All necessary steps are repeated for the revised manuscript.

When management believes the manuscript is of high quality, he/she approves it, signs the ORD Clearance Form, and transmits the entire package to the next level of supervision. Each level of management is accountable for the scientific quality and merit of each approved manuscript.

The *LD* is the official responsible for the scientific quality and policy review of all manuscripts emanating from the Laboratory and its activities. The *LD* approves all manuscript packages for technical soundness and policy content; the manuscripts will be scientific, not policy, documents.

The *LD* (or his designee) resolves all remaining unsettled differences between *author* and *reviewer(s)* and attaches an explanation of the resolution. The *LD* may request additional reviews, either internally or externally. Recommendations for changes shall be returned to the *author* for manuscript revision. All necessary steps are repeated for the revised manuscript.

Upon approval, the manuscript and all accompanying review documentation, including a completed and signed ORD Clearance Form, are transmitted by the *LD* to the *OD*.

The *OD* is the official responsible for the scientific quality and policy review of all manuscripts emanating from his/her Office. The *OD* approves all manuscripts for technical soundness and policy content. The *OD* may request additional peer reviews, either internally or externally. Recommendations for changes shall be returned to the *LD* (or to the author, for manuscripts not originating in a Laboratory) for manuscript revision.

An approved manuscript and all accompanying review documentation, including a completed and signed ORD Clearance Form, shall be transmitted by the *OD* to the *AA*, certifying that in the opinion of the *OD*, the manuscript is of high scientific quality, contains no inappropriate policy statements and merits being published.

The *AA* is the official responsible for the scientific quality and policy review of all manuscripts emanating from the Office of Research and Development. The *AA* has final authority to decide whether a manuscript must be reviewed by the Science Advisor and/or the Office of Public Affairs. Reviews in addition to those defined herein will be conducted as required by EPA Order 2200.4.

Recommendations for changes shall be returned to the *LD* (or *OD* for manuscripts not originating in a Laboratory) for manuscript revision.

The *AA*, upon final approval of the manuscript, shall return the approved package to the originating laboratory or office.

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## **Production**

The amount of involvement of CERI in the development of any given technical communications product depends upon the amount of professional communications expertise required to produce the product and the breadth of the intended audience. Where the amount of communications skill required and the cost of production are high or the product is intended for a broader or more sensitive audience, CERI is responsible for providing the necessary communications support and is ultimately responsible for editorial quality control over the process and for assuring that the final product is appropriate for, and distributed to, the intended audience.

In general, responsibilities will be divided as follows: *Researchers and project officers* will be responsible for producing journal articles, project reports, and the drafts of EPA Research Reports and other technical communications. They will propose conferences and other information activities and will provide technical input and review of all information packages relating to their area of expertise. They will also, and very importantly, alert management to important research developments through the current management reporting system. In addition, the researcher or project officer is solely responsible for obtaining and submitting all necessary permission letters, courtesy notes, and clearances for copyrighted material.

The laboratory *TIM* is responsible for working with appropriate laboratory staff to develop the organization's annual technical information plan and to ensure that the plan is kept updated. In addition, the TIM develops information plans and negotiates with CERI, where appropriate, to develop optimum information products. This individual will also monitor the development of technical information products and provide or coordinate appropriate technical review of, and final laboratory signoff on, technical information plans, products, and resource transfers.

The *LD* reviews the laboratory's technical information plan and approves that laboratory's technical information publications and conferences. He/she recommends those projects which are to receive special treatment in the EPA Research Report series and recommends AA approval for technical conferences. The LD also approves the use of the laboratory resources to support each technical communications product and appoints the TIM for the laboratory.

The *TIPM* appointed by the OD, provides oversight of the entire technical information program within the OD's office. This individual reviews, in detail, the laboratory's technical information plans and all major modifications to those plans. The TIPM coordinates the policy-level review of those products which require such review and makes recommendations to the OD on all aspects of the technical information program.

The *OD* reviews and approves the technical information plans of his/her organization to ensure an appropriate balance and specifically approves those conferences which are aimed at a broad audience. The OD also provides or assigns someone to provide review and approval for those technical communications products which require policy review or are aimed at broad audiences on subjects within that OD's purview.

The responsibility of *CERI* is to provide technical communications policy and support to all of ORD and to process all printing of products aimed at audiences beyond the technical peer group or laboratory personnel. CERI will work with Laboratory TIMs and the OD's TIPMs to develop TIPs and to provide editorial quality control over most ORD research information products. They will also provide or coordinate most support activities for conferences and technical communications products aimed at broad audiences.





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## **Project Documentation**

Every EPA research contract, grant, or comparable in-house research project must be properly documented. Such documentation has a three-fold purpose. First, it ensures that all useful information and data are made available to the scientific and regulatory communities through appropriate channels. Second, it ensures the availability of all relevant data, in accessible form, in case of serious legal or scientific challenge. Third, it accounts for the expenditure of public funds and ensures that EPA researchers get credit for their work.

Permissible documentation of research projects—projects not exclusively designed to produce one of the other products described in this guide—must take one or more of the following forms:

**Journal Articles** are encouraged. The peer-review mechanism is an excellent way of establishing the quality of our work.

**EPA Research Reports**—specially formatted technical reports distributed by EPA—will be reserved for only the very best and most important ORD research outputs.

**Project Reports** constitute the primary mechanism for documenting EPA's research. These reports will *not* be printed by EPA and will be made available only through the NTIS system.

The production of a **Project Summary** is required for every Project Report. This summary will be printed and distributed as appropriate to gain visibility for, and widespread use of, the information generated in the related Project Report.

**Unpublished Reports:** In exceptional cases where none of the above are appropriate, an unpublished report, along with justification for nondistribution, is required to be centrally filed with CERL.

### ***Journal Articles***

#### ***Description***

Journal articles are a major means by which ORD scientific information reaches the research community. They afford researchers the experience of presenting their results in compliance with the often rigorous requirements of the journals for substance, style, and format. Also, articles accepted by peer-reviewed journals enhance ORD's credibility and reputation with peer audiences in all fields.

Another benefit of good journal articles, often taken for granted, is that they provide references for the development of criteria documents and for the defense of proposed and existing standards. From the standpoint of the regulatory audience, and in terms of EPA's primary mission, this is an objective which every journal article author must keep in mind.

**Initiation**—Anyone in ORD may initiate a journal article. He/she may initiate it through whatever channels are appropriate in his/her laboratory or office.

**Review/Approval**—Publications by EPA employees proposed for scientific journals which incorporate peer review are exempt from the process required herein. Individual laboratories or offices may establish review procedures to the extent they deem necessary.

EPA encourages the independent publication of the results of its contract and grant research in appropriate scientific journals as an important method of recording and reporting scientific information. Any journal article so published must, however, contain the following statement:

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"Although the research described in this article has been funded wholly or in part by the United States Environmental Protection Agency through contract or assistance agreement (number) to (name), it has not been subjected to Agency review and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred."

**Preparation**—The initiator will write the journal article.

**Quality Control**—Technical content is the responsibility of the initiator.

**Reporting/Distribution/Documentation**—Once the article has been approved for submission, an ORD Clearance Form is to be submitted to CERL simultaneously with submission to the intended journal. After publication, one reprint, along with a completed EPA form 2220-1, is to be submitted to CERL. CERL will also handle submitting the article to NTIS. Finally, it will be the responsibility of the project officer to ensure that copies of all journal articles supported by EPA and authored by EPA contractors and grantees are also submitted to CERL.

## **Research Reports**

### **Description**

These reports represent the best of EPA's research in an attractive, high-quality format. These reports may be the result of a single major research project, a synthesis of the results of several related research projects, or a special technical report generated to meet an overriding information need. EPA Research Reports normally will contain information not appropriate for or not published in peer-reviewed journals. They will not normally contain large volumes of back-up data. This data will be submitted to NTIS and referenced in the EPA Research Report.

**Initiation**—Any researcher or project manager may propose an EPA Research Report. This proposal, comprised of an abstract, justification and expected cost (production costs obtained from CERL), will be submitted through the researcher's supervisor and the Technical Information Manager, to the LD or OD. Any one of the latter three individuals may initiate the project by authorizing the requisite resources.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA, may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—Once the report receives the appropriate approval, CERL will be available to provide any editorial and production support. CERL's extramural production and printing costs are to be reimbursed by the initiator's organization.

**Quality Control**—All control over the content of the report will be the responsibility of the initiator, subject to the review/approval procedures stipulated above. CERL will be responsible for style, format, layout and graphics.

**Reporting/Distribution/Documentation**—CERL will have the report printed and submitted to NTIS. CERL will handle distribution of the report to a special list of key libraries, to those stipulated by the project initiator, and to other recipients on request.

## **Project Reports**

### **Description**

Project Reports provide the means by which most EPA research is documented and made available to the research community. 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. A Project Report is published and distributed by NTIS only; it is not printed by EPA. For every Project Report produced, a Project Summary must also be produced.(See the procedures under "Project Summary" in this section.)

**Initiation**—Creation of a Project Report is the responsibility of the contractor/grantee who is guided by the EPA project officer or researcher.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—The contractor, grantee or EPA researcher is responsible for preparation of Project Reports. He/she is urged to adhere to "Handbook for Preparing Office of Research and Development Reports." This specification may, however, be waived by the project officer or researcher. Minimum acceptable documentation is camera-ready manuscript (image area and reproducibility conforming to NTIS requirements).

**Quality Control**—Technical content is the responsibility of the initiator.

**Reporting/Distribution/Documentation**—CERI is responsible for submitting the report to NTIS for public distribution.

## **Project Summaries**

### **Description**

A Project Summary is a short synopsis of the key findings of a research project, which is otherwise published and recorded only as a Project Report by NTIS. Project Summaries are primarily written to allow an individual to determine whether he/she wishes to purchase the full Project Report from NTIS. These summaries should be written in the terminology commonly used in the applicable area of research. The summary should be as short as possible, ideally less than four printed pages in length, but up to 12 pages may be necessary on exceptional reports. Project Summaries are key means for gaining wider appreciation of ORD's research. Project Summaries, unlike their parent Project Reports, are printed and distributed by EPA. Project Summaries are normally produced only in conjunction with a Project Report.

**Initiation**—Researchers who document a research project with a Project Report must produce a Project Summary.

**Review/Approval**—The project officer or researcher is responsible for obtaining any peer review required by ORD/Laboratory policy. This review will be obtained simultaneously with the review of the Project Report upon which the Project Summary is based. The LD approves the Project Summary for publication and distribution.

**Preparation**—Production of a Project Summary is the responsibility of the individual who produced the parent Project Report. The draft of the summary will be sent to CERI along with the Project Report.

**Quality Control**—Technical content of the Project Summary is the responsibility of the EPA researcher or project officer. The Technical Information Manager is responsible for monitoring the quality and effectiveness of the summary itself.

**Reporting/Distribution/Documentation**—CERI will distribute the Project Summaries to the audiences specified by the initiator and to any other audiences as appropriate. Project Summaries will contain clear reference to NTIS for the full report.

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## **Unpublished Reports**

### **Description**

Unpublished reports are those for which a decision has been made that publication would not be in the public interest for one or more of the following reasons: (1) The quality of the work was substandard, misleading, or so inconclusive as to have no scientific value; (2) the results are highly redundant of a prior investigation; and/or (3) the results are to be incorporated in subsequent reports (definitely planned) and early dissemination of partial results would not prove cost-effective.

**Initiation**—Any researcher may use appropriate channels in his or her office to propose that a report not be published.

**Review/Approval**—It is the responsibility of the LD to decide whether a report will remain unpublished.

**Preparation**—The initiator prepares the final draft of the report together with a short justification of why the report should not be published and forwards these through appropriate channels (including the TIM ) to the LD.

**Quality Control**—Technical quality control is the responsibility of the initiator.

**Reporting/Distribution/Documentation**—If the LD gives approval *not* to publish a report, the initiator forwards a copy of the report plus justification for non-publication and a clearance form to CERI for cataloguing. When a report has been deemed unfit for publication, it should not be referenced or distributed.

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## Meetings and Selected Publications

Conferences are by far the most expensive means of transferring our technical information. At times, however, they may be cost-effective, especially when it can be clearly justified that face-to-face contact with a particular community provides the most efficient means of transmitting the information. Technical Newsletters, Published Papers, and Book Articles may be appropriate alternative media for transferring information to specific communities.

**Technical Conferences and Proceedings** address narrow scientific or technical issues in a speech presentation rather than in an interactive format. They differ from seminars in having more rigorous formal presentations, a broader scope of concerns and a lower level of audience involvement. Conferences employ a rigid format including prepared papers and proceedings.

**Technical Newsletters** keep the research or technical community informed of the current status of research, and of meetings and publications in particular subject areas.

**Published Papers and Book Articles** allow researchers to communicate at a peer-group level.

### **Technical Conferences and Proceedings**

#### **Description**

Conferences and symposia are the most costly form of communication for ORD, and a great deal of thought must go into the decision about whether a conference is the best way to reach the targeted audience. Despite their high cost, they have the advantage of live presentation of the most recent results and findings and face-to-face interchange among the experts in a particular field of specialization.

There are two relevant items of ORD policy concerning conferences. First, because of the cost and high visibility, CERI will be notified as soon as a conference is proposed, and either CERI staff or a CERI support contractor will assist, as appropriate, in handling the detailed support activities associated with the conference. Secondly, proceedings will be produced from every ORD conference and submitted to NTIS so that the information produced will be available.

**Initiation**—Any researcher or group of researchers may initiate a proposed conference when that particular medium seems to be the most cost-effective means of reaching the appropriate technical community. The initiator will prepare a proposed agenda, list of speakers and attendees, conference objectives and all anticipated costs for holding the conference and producing the proceedings, including cost of speakers, editing and preparation of camera copy, as well as printing. The latter support costs may be obtained from CERI through the TIM. The proposal will then be submitted through the LD and OD to the AA, R&D.

**Review/Approval**—Proposed technical conferences are to be reviewed by the LD or OD. This individual must ensure that the conference is justified on its technical merit as the most cost-effective means of transferring key scientific data to the proposed audience. Authority to approve such conferences may be delegated to the TIM or TIPM. Each paper resulting from EPA-funded research to be presented at the conference must also undergo peer review. A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer

reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—Once a proposed conference has been approved by the AA, R&D, the substantive development (defining the scope, securing the best available outside ORD speakers, etc.) is the responsibility of the initiator, with CERI available in a consulting role. The support requirements (site selection, displays, audio-visual, proceedings recording and preparation, etc.) will in all cases be accomplished with CERI or CERI contractor support in consultation with the initiator(s). Every conference must result in the production of a proceedings, and funding must be set aside for this purpose. Format for preparation and production will be provided by CERI.

**Quality Control**—Technical quality control is the responsibility of the initiator. CERI is involved with the presentation of every conference sponsored by an ORD unit. This means that CERI will assist in selection of the most effective site for the conference, the best displays and graphic presentations, the best audio-visual support, in consultation with the initiator(s). CERI will provide support contractors, where necessary, on an at-cost basis.

**Reporting/Distribution/Documentation**—CERI will be notified of the agenda, dates, and other appropriate information once a conference is approved. This information will be catalogued and filed for future reference at CERI. Once a conference is completed, CERI staff or a CERI contractor will work with the conference organizers and the TIM to produce the proceedings, which will become the permanent record. The proper documentation of a conference is ultimately the responsibility of the initiator. Copies of the proceedings will be made available through NTIS and will be published in limited quantity by EPA through CERI.

## **Technical Newsletters**

### **Description**

**Newsletters are designed to keep the research and technical community abreast of current research status, results, meetings, and publications, on a routine basis, normally either monthly or quarterly, depending on the volume of significant activity at the laboratory or office. Newsletters should normally be prepared in house with contract assistance as necessary for editing and camera-copy preparation. They will range from one to no more than eight pages 8-1/2 by 11 in, in one color with basic graphics, where appropriate.**

**Initiation**—All newsletters must comply with OMB Circular A-3. CERI will assist with the necessary Agency and OMB clearances.

**Review/Approval**—Every individual issue of a newsletter must follow peer review procedures. A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—The LD or OD will appoint one or more researchers to serve as editors. The editors will solicit information and articles from the staff and prepare the newsletter in a specified ORD newsletter format. CERI will be available to assist in the newsletter preparation.

**Quality Control**—CERI will assist in preparation, style, and format review if requested. The organization's TIM or TIPM will review each newsletter for accuracy prior to distribution.

**Reporting/Distribution/Documentation**—Initiating laboratories/offices are responsible for distribution of newsletters. CERI is to receive one copy of all ORD newsletters.

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**Published  
Papers/Book  
Articles**

**Description**

Published papers/book articles allow researchers to communicate at the peer level and attain visibility and credibility for EPA. A paper is written text of a presentation to be delivered before a scientific peer group. It becomes a published paper subject to EPA/ORD peer review, if (1) it will appear as a preprint or in a proceedings of a meeting, or (2) it will appear in a non-peer-reviewed journal or similar periodical.

As part of ORD policy, a copy of the paper and a clearance form are to be sent to CERl when a paper or a book article is submitted for publication by a private publisher.

**Initiation**—Anyone in ORD may initiate a paper or article to be published externally to EPA.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—On approval of the supervisor, the initiator may submit the paper to the publisher for publication.

**Quality Control**—The draft will be reviewed for technical content, consistent with Laboratory or ORD peer-review policy, then forwarded, together with any comments, to the LD, OD or his or her delegee as described above for review of content, compatibility with current policy and programs, and final approval.

**Reporting/Distribution/Documentation**—The final draft of a paper or article along with an abstract and a clearance form is to be submitted to CERl by the TIM. A reprint of a book article can subsequently be substituted for the draft sent to NTIS.

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## Applications Guides

These publications are directly useful at the operational level in environmental research or pollution control work. They may be instructional guides which detail proper monitoring techniques or sampling methodologies, or they may be inclusive descriptions of new and applicable technologies, models, or processes.

**User's Guides** explain or describe how to employ an ORD-developed model or process and assist the reader in exploiting existing products or techniques.

**Design Manuals** are inclusive descriptions of new technologies or methodologies and are used by the reader in creating, constructing, or maintaining a product or process.

**Handbooks** are practical references containing a wide range of information on a particular subject area, for use at either the desk or the bench.

### ***User's Guides***      *Description*

The User's Guide explains and describes an ORD-developed model or process. It is necessary if potential users are to be able to exploit off-the-shelf products.

**Initiation**—User's Guides will be initiated in response to OD recommendations or to the recommendations of research committees, regions, program offices or researchers. The major responsibility for following through on a proposed User's Guide is shared by CERL and the appropriate laboratory personnel.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is co-author.

**Preparation**—The contractor, grantee, or EPA researcher is responsible for final preparation of User's Guides under the guidance of the project officer. Camera copy for User's Guides must conform to the requirements in the "Handbook for Preparing Office of Research and Development Reports."

**Quality Control**—Technical content is the responsibility of the project officer. CERL will review the style and format of the guide.

**Reporting/Distribution/Documentation**—CERL will arrange for printing and distribution in accordance with the laboratory's and requesting/sponsoring office's recommendations and will also arrange for the guide to be sent to NTIS.

### ***Design Manuals***

#### *Description*

Design Manuals are comprehensive specific descriptions of new technology or methodology applicable to a particular environmental problem. Design manuals are intended to guide the user through major steps of the process of creating, constructing and maintaining a particular technology or technique. In most cases, these works will require input from several laboratories, other ORD offices and EPA program offices.

**Initiation**—Manuals will be initiated in response to OD recommendations, or to recommendations of research committees, regions, program offices or researchers. The major responsibility for following through on a proposed manual is shared by CERL and the appropriate laboratory personnel.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is co-author.

**Preparation**—Once the funding for the proposed manual has been approved by the requesting/sponsoring organization(s), CERI will coordinate all phases of preparation.

**Quality Control**—CERI will obtain reviews by technical experts in the subject matter of the manual. It is crucial that the most expert research engineers in EPA perform this task, since the completed manual will, in effect, be the Agency's final word on the subject. CERI will review the style and format of the manual.

**Reporting/Distribution/Documentation**—Camera-ready copy of the manual will normally be produced by a CERI contractor. CERI will arrange for printing and distribution in accordance with the laboratory's and requesting/sponsoring office's recommendations. CERI also will arrange for the manual to be sent to NTIS.

## **Handbooks**

### **Description**

**Handbooks** are reference tools which may be used either at the desk or the bench. They are broad collections of information, statistics, data and techniques which are proven both *accurate and highly relevant* to the subject area. Handbooks require a great deal of assistance and review to be comprehensive, and are intended to retain both their relevance and utility for years.

**Initiation**—Handbooks will be initiated in response to OD recommendations, or to recommendations of research committees, regions, program offices or researchers.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—In all cases, once the funding for the proposed handbook has been approved by the requesting/sponsoring organization(s), the technically expert researchers will coordinate all phases of preparation with CERI. CERI will provide or coordinate technical writing and editing, graphics, photography, and layout.

**Quality Control**—The LD will designate the technical experts in the subject matter of the handbook to perform technical review of the final draft. It is very important that the most expert researchers in EPA perform this task, since the completed manual will, in effect, be the Agency's final word on the subject. CERI will review the style and format of the handbook.

**Reporting/Distribution/Documentation**—Camera-ready copy of the handbook will normally be produced by a CERI contractor. CERI will arrange for printing and distribution in accordance with the laboratory's and requesting/sponsoring office's recommendations. CERI also will arrange for the handbook to be sent to NTIS and will provide whatever publicity is necessary to ensure the saturation of the intended audience(s).

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## Summaries/ Syntheses

**Environmental Research Briefs** are short technical summaries of the status, results or major advances in ORD research.

**Program Summaries/Plans** present a specific program, its mission, mandate, organization and plans, in a condensed format for both internal management and external review.

**Technology Transfer Reports** are short, attractive and effective presentations of scientific advances for communication with the technical applications (user) community.

### *Environmental Research Briefs*

#### *Description*

Sometimes it is desirable to publish a short summary announcing the status of an ORD research project before a complete report can be prepared. In such cases, an Environmental Research Brief can be produced to convey this information in a timely fashion to a large audience.

**Initiation**—Anyone in ORD may initiate an Environmental Research Brief. The initiator should prepare a draft of the proposed bulletin and forward it to CERI through whatever internal laboratory or office channels his/her organization may have and through the TIM. CERI will assist with necessary Agency and OMB clearances in compliance with OMB Circular A-3.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—Preparation of the initial draft is the responsibility of the initiator. CERI will provide editorial support as requested, in addition to production and distribution support.

**Quality Control**—Technical and quality control is the responsibility of the initiator. CERI is responsible for production.

**Reporting/Distribution/Documentation**—The initiator will provide a desired distribution list. CERI will handle distribution and retain master copies.

### *Program Summaries/ Plans*

#### *Description*

**Program Summaries/Plans** are introductions to a particular major research program. For both internal use as a unifying document and for external use as a detailed introduction, these documents are normally 12 to 32 pages in length. Program Summaries/Plans focus on organizational issues, mandate, roles, goals and plans with minimal discussion of the background or details of the environmental issues addressed by the program.

**Initiation**—Any program manager may propose a program summary, but production will not begin until an outline is developed which is acceptable to the program manager, the TIM and the Director of ORPM.

**Review/Approval**—A Program Summary/Plan will normally begin with a draft produced by the program manager and/or TIM. All subsequent drafts will be developed under the

## ***Technology Transfer Reports***

review of, and in cooperation with, these individuals, who will ultimately be responsible for the content of the report. Final approval for distribution of the report must come from the next higher level of management.

**Preparation**—All information required to prepare a Program Summary/Plan will be provided by the Program Manager and/or TIM. CERI and TIO will normally handle all editing, layout, graphics and production, in close cooperation with the TIM.

**Quality Control**—The quality and accuracy of the content of the reports are the responsibility of the TIM. The quality of the design, layout, graphics, etc. is CERI/TIO's responsibility. CERI/TIO will be reimbursed by the subject program for any extramural expenses incurred, including printing.

**Reporting/Distribution/Documentation**—CERI will handle printing and distribution of the report to the audience(s) specified by the Program Manager and TIM. Copies will also be submitted to NTIS.

### ***Description***

Technology Transfer Reports have long been one of ORD's most popular forms of communication with the technical applications community. Generally, these reports are summaries of significant control technology developments which may be covered in far greater detail in handbooks and manuals. These reports are especially suited for providing their audience with a succinct, accurate overview of a complex subject.

**Initiation**—Technology Transfer Reports will be initiated by individuals within a laboratory or OD's office. The Technical Information Managers are responsible for notifying the CERI staff when there is a technology development that merits reporting in the technology transfer series.

**Review/Approval**—A minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is co-author.

**Preparation**—CERI is responsible for the preparation of all Technology Transfer Reports. The Director of CERI will arrange for his staff to work closely with the cognizant personnel in the laboratories and offices as the text of the report is drafted and appropriate artwork and photography are developed.

**Quality Control**—In addition to review by CERI staff, drafts of Technology Transfer capsule reports will be reviewed by at least two technical experts in the laboratories or offices. The Director of CERI will make arrangements for this review. CERI will have an internal quality control review of both the technical quality and the style and format.

**Reporting/Distribution/Documentation**—CERI will print and distribute the reports.

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## **Response Reports**

These reports answer requests for highly particularized technical information. Their audience is often small and clearly defined and their formats vary greatly depending on the nature of the request and urgency of the need. Although the technical information contained in these reports is narrowly focused, the reports themselves often have strong policy as well as scientific implications. As such, they must contain the most considered scientific and technical positions of researchers in the pertinent field of study. The subject matter of these reports ranges from evaluations of control techniques to assessments of the potential effects of pollutants.

**Problem-oriented Reports** are responses to requests from EPA Program or Regional Offices for scientific or technical information.

**Criteria Documents** distill out all that is known and identify that which is not known about a specific pollutant so as to provide a scientific foundation for standard setting.

**Assessment Reports** are comprehensive evaluations of the effects of a given pollutant.

### ***Problem- oriented Reports***

#### ***Description***

Problem-oriented reports are produced when there is a need for a written report in response to a request from an EPA office. They normally address a specific issue or problem and vary in format depending on the nature of the request and urgency of the need. Such reports are duplicated or printed, depending on the distribution needs of the requesting office. If the information produced as a Problem-oriented Report is of interest to the public and meets clearance and documentation requirements, as recommended by the TIM, the report will be submitted to NTIS for distribution and a Project Summary published to announce its availability.

**Initiation**—Problem-oriented Reports will be initiated at the laboratory level in response to requests from Program and Regional Offices.

**Review/Approval**—If the report will be submitted to NTIS, a minimum of two peer reviews each is required at the immediate supervisor level. Each higher level of management, i.e., LD, OD and AA may request additional peer reviews. For contractor/consultant/cooperative agreement originated manuscripts, the Project Officer shall be an additional reviewer unless the Project Officer is a co-author.

**Preparation**—The researcher assigned to the project will work with the TIM/TIPM and CERL as needed to perform all writing and will initiate the technical review.

**Quality Control**—The Laboratory Director will ensure adequate quality control.

**Reporting/Distribution/Documentation**—CERL will arrange for distribution in accordance with the requesting/sponsoring office's instructions. CERL will also arrange to have the report sent to NTIS and will produce the Project Summary from draft copy supplied by the initiator, if such action is recommended by the TIM/TIPM.

### ***Criteria Documents***

#### ***Description***

**Air Quality Criteria Documents and Water Quality Criteria Documents** are mandated by the Clean Air Act and Federal Clean Water Act, respectively. The successful

implementation of these major environmental laws rests partially on the successful preparation of these documents. Both types of criteria documents required by these laws contain a discussion of all the factors involved in the enhancement or deterioration of the environment. It is partially on the basis of this information that the Administrator decides at which level to set standards for regulating a pollutant. Criteria documents are therefore subjected to the most rigorous public scrutiny and stringent scientific review.

The Environmental Criteria and Assessment Offices have been established to prepare these reports. ECAO-RTP prepares Air Quality Criteria Documents. ECAO-CIN prepares Water Quality Criteria Documents. Both ECAOs use the expertise of ORD researchers and the scientific community at large to augment their in-house scientific staffs.

**Initiation**—Criteria documents are specifically required by the Clean Air and Water Acts. Section 108 of the Clean Air Act mandates Air Quality Criteria Documents. Section 304 of the Federal Water Pollution Control Act specifies Water Quality Criteria Documents.

**Review/Approval**—Final ORD review and sign-off for Criteria Documents is the responsibility of the AA for ORD. Technical review is conducted by experts within and outside EPA. External reviewers are selected on the basis of their knowledge in the subject area. The Clean Air Science Advisory Committee reviews all Air Quality Criteria Documents prior to the Administrator's signatory approval; the Science Advisory Board and/or another Agency group reviews the Water Quality Criteria Documents.

**Preparation**—The ECAOs are responsible for preparing Criteria Documents and assembling technical experts in the subject matter from within and outside ORD.

**Quality Control**—The document production staff at CERL will review the camera-ready copy for style, format, graphics, and layout, or will accept the draft of the document in paper or typeset-compatible form and will provide all design, typesetting, layout and production support. Extramural costs, if any, will be reimbursed by the appropriate ECAO.

**Reporting/Distribution/Documentation**—Camera-ready copy of the document will be sent to CERL for printing, distribution, cataloguing and/or forwarding of copies to NTIS.

## **Assessment Reports**

### **Description**

There are a variety of scientific assessment outputs that are differentiated by the depth and comprehensiveness of the evaluation. Health assessments may include one or more of the following types of evaluations: carcinogenicity, mutagenicity, reproductive toxicity, other chronic and acute effects, the routes and levels of human exposure to chemical substances and estimates of effect/exposure levels and toxic potency. Multimedia health assessments cover the known health data from all exposure routes and they usually contain limited media quality information.

Other Agency assessment documents may evaluate information on welfare effects, site specific effects, technological processes or socioeconomic implications. These documents also serve as the scientific basis for regulatory decision making.

**Initiation**—Assessment Reports are initiated at the request of another EPA office.

**Review/Approval**—Multimedia health assessment documents are submitted for rigorous public and scientific review; many of the other assessment reports receive a similar level of review. External reviewers are selected on the basis of their knowledge in the subject area. Health assessment reports are usually reviewed by the Science Advisory Board or the Scientific Advisory Panel. Final ORD review and signatory approval is the responsibility of the Assistant Administrator for Research and Development.

**Preparation**—The Director of any organization responsible for preparing an Assessment Report assembles technical experts in the subject matter from within and outside ORD.

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**Quality Control**—The document production staff at CERl will review the camera-ready copy for style, format, graphics, and layout, or will accept the draft of the document in paper or typeset-compatible form and will provide all design, typesetting, layout, and production support. Extramural costs, if any, will be reimbursed by the appropriate ECAO.

**Reporting/Distribution/Documentation**—CERl will arrange for printing and distribution in accordance with the requesting/sponsoring office's instructions. Depending upon the request, CERl may also arrange to have the report sent to NTIS.

Quality Control - The document produced in this effort will be reviewed by the Quality Control group to ensure that it meets the requirements of the project. The group will also ensure that the document is consistent with the other documents in the project.

Reporting - The project manager will report the progress of the project to the steering committee on a regular basis. The report will include the status of the project, the progress of the tasks, and the resources used.



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## Audio-Visual

### ***Films and Videotapes***

On some occasions, films and videotapes are a cost-effective way to communicate with an audience. While the film and videotape media are not recommended for widespread use in ORD, they are useful in some limited applications where it can be shown that they are superior to other forms of communication. All use of films and videotapes will be coordinated through CERl for quality control.

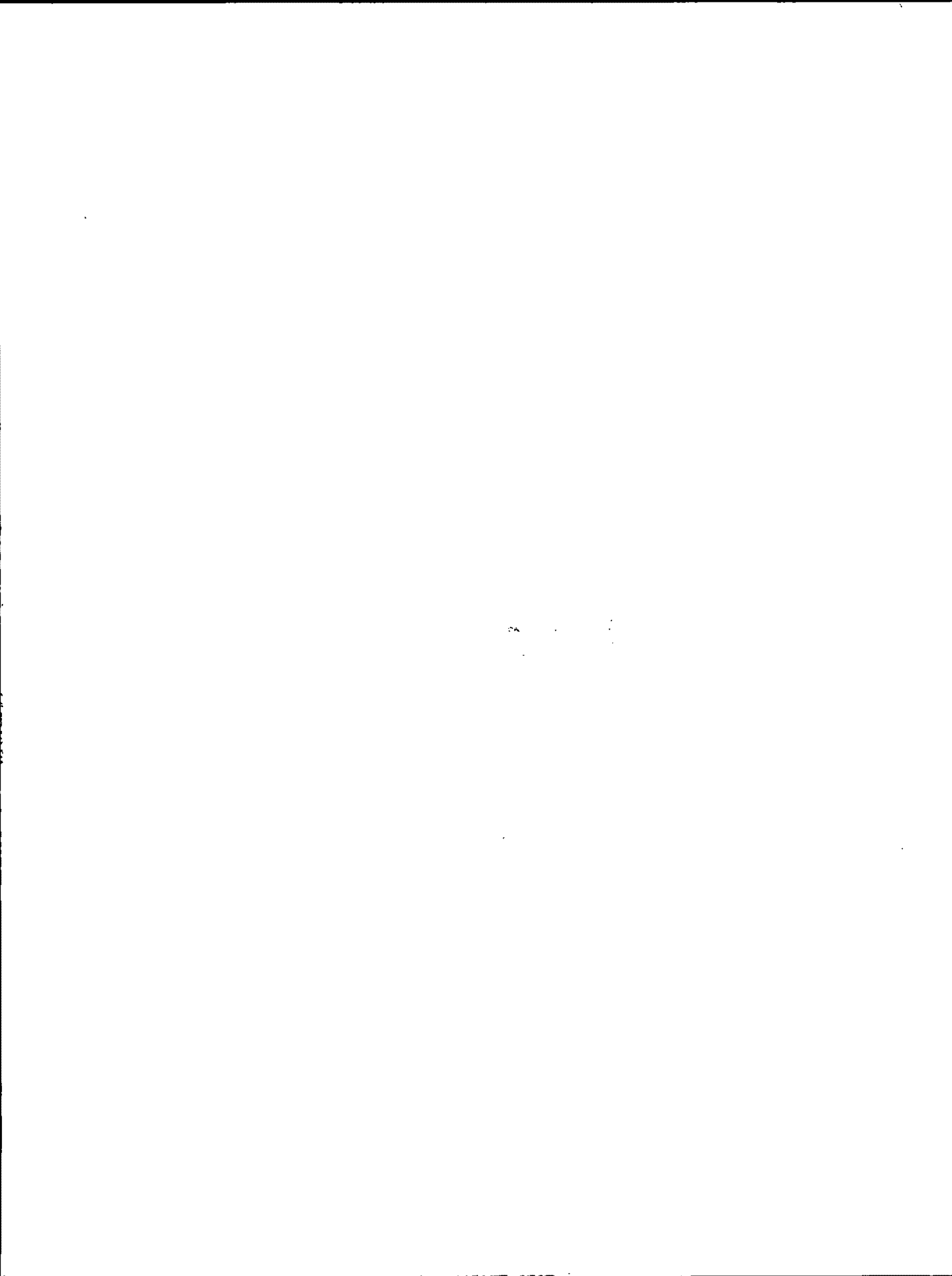
**Initiation**—Any researcher may initiate a proposed film or videotape when that particular medium seems to be the most effective means of reaching the audience. The initiator will prepare a justification which includes expected audience and estimated cost. Estimated cost may be obtained from CERl. The justification will then be submitted to the LD through the TIM.

**Review/Approval**—The use of film and videotape as an information transfer mechanism must receive prior approval of the Director, Office of Public Affairs.

**Preparation**—Once approved, a film or videotape is to be prepared, in most cases, through CERl. CERl will assist in acquiring either in-house EPA or contractor support and will advise the initiator on the presentation aspects of the production.

**Quality Control**—It is the responsibility of the initiator to verify the technical accuracy of the material presented. CERl information specialists will review the film or videotape for style, format, and rhetorical effectiveness.

**Reporting/Distribution/Documentation**—The researchers will prepare a description of the film or videotape and will catalogue it with CERl for future reference. Distribution of the film will be in accordance with plans developed by the initiator, the TIM, CERl and the Office of Public Affairs.



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