# HEI PROJECT NEGOTIATION, MANAGEMENT, AND INVESTIGATOR COMMITMENTS

HEI has two main goals in funding research. One is to build a coherent research program for each set of related studies addressing questions in a more comprehensive way than would be possible with independent studies. Another is to provide timely, high-quality information to its sponsors and regulatory agencies for technological and regulatory decisions. In order to accomplish these goals, HEI works in a cooperative fashion with investigators and keeps in close contact with them through such means as progress reports, workshops, and its Annual Conference. The progress reports are reviewed by the HEI Research Committee and staff, and by outside experts, if deemed necessary by the Research Committee. In addition, HEI requires a comprehensive final report at the end of each study, which undergoes an in-depth review by the HEI Review Committee and additional experts.

The purpose of this section is to provide information to prospective applicants about HEI's management of studies and about the process for review and publication of final reports from HEI-funded studies. Applicants should read this section carefully to ensure that they understand the commitments in conducting studies with HEI funding.

## SCIENTIFIC NEGOTIATION OF PROJECT PLANS

The Research Committee may request modifications in the project plan or budget before making a final funding recommendation to the HEI Board of Directors. For example, the Research Committee may request deletion of parts of the proposed project that are less relevant to HEI's objectives or overlap considerably with other studies; sometimes changes in the range of exposure concentrations of pollutants are recommended to make them more representative of ambient conditions. This approach enables HEI to mold diverse investigator-designed studies into a more coherent research program and to generate data more relevant to regulatory needs. HEI staff scientists act as liaisons between the Research Committee and investigators in this scientific negotiation process. The end-product is a project plan that is acceptable to both the investigator and Research Committee.

## RESEARCH AGREEMENT (CONTRACT)

Upon satisfactory negotiation of the project plan and budget, a contract for the study is negotiated with the Principal Investigator's institution. **HEI's Research Agreement is a cost-reimbursement contract rather than a grant.** Investigators should be aware that scientific and administrative contract negotiations may sometimes extend through a period of several months, which may result in changes in the scope or cost of the proposed study; therefore, certain portions of the applications may have to be updated prior to contract signing. In general, HEI requires that any significant changes in personnel, scope of work, and/or budget be reflected via submission of revised budgets, project plans, or other appropriate application materials prior to the signing of the contract. All studies should have a quality assurance / quality control plan in place. For human studies and major animal studies with expected regulatory significance, a written protocol should be approved by the appropriate institutional review boards before the study starts (see *Studies Involving Human Participants, Use of Laboratory Animals,* and *Quality Assurance* below).

The contract contains a **Statement of Work**, which is an approved, brief description of work to be performed in each contract year, and the budget. The scope of the research conducted by the Investigator should be consistent with the Statement of Work. If results suggest new directions for research, however, the contract may be amended to allow changes in the Statement of Work upon written agreement between the investigator's institution and HEI.

Contracts are usually issued for one year, although HEI expects to provide support for the number of years initially approved by the Research Committee, provided work is progressing satisfactorily. The Research Agreement has been designed to maximize the integrity of the scientific process while providing needed protections and meeting applicable federal regulations. Once a contract is signed by both parties, an Abstract and Statement of Work written by the principal investigator may be distributed to the Institute's sponsors. These also will be available to members of the public who request them.

No work should be started nor should any study costs be incurred prior to signing of the contract unless explicit written authorization is provided in advance by HEI's Director of Finance and Administration.

**STUDIES INVOLVING HUMAN PARTICIPANTS**

As mentioned in the section *Instructions for Completing the Application, Additional Submissions*, the applicant must submit, with the application, a written assurance for compliance with the guidelines established by the Environmental Protection Agency (EPA) — as specified in EPA Regulation 40 CFR 26 (Protection of Human Subjects) available from EPA's Program in Human Research Ethics (*http://www.epa.gov/osa/phre/index.htm*) — and the guidelines by the Department of Health and Human Services (DHSS) concerning protection of human participants (see *Instructions for Completing the Application*, available at *www.healtheffects.org/funding.htm*), on OMB form No. 0990-0263 (page F-11 of HEI application forms).

If HEI decides to fund a study involving human participants, the investigator needs to submit, before starting the study, a detailed protocol and documentation certifying that an appropriate Institutional Review Board (IRB) has reviewed and approved the proposed study in accordance with the DHHS regulations. The specific documentation that needs to be provided to HEI prior to starting the study is the following:

- The entire application to the IRB (including all supporting documentation submitted to the IRB, such as the study protocol, questionnaires, etc.);
- Statement of approval or exemption from the IRB;
- Approved informed consent document (if applicable) or a statement from the IRB that the investigator does not need to obtain informed consent.

According to EPA's rules, the EPA needs to review and approve all IRB-related documentation for all EPA-funded studies (including HEI studies) prior to the investigator starting the work. Therefore HEI will not sign a contract until it has received written approval from the EPA that the study's use of human participants complies with EPA regulations (40 CFR 26). The timely submission of the items listed above will avoid delays in the start of the study.

HEI also asks that the application to the IRB (including the informed consent document) be provided to HEI *at the time it is submitted to the IRB*. HEI may propose modifications to the informed consent document if it believes that the risks to the participants are not properly represented.

Applicants who are (a) utilizing data or samples from participants recruited for another study or (b) collecting additional samples from participants recruited for other studies, need to provide the IRB approval and informed consent document obtained for the original study and the IRB approval for the HEI study.

In addition, investigators will be asked to comply with HEI's Special Quality Assurance (QA) procedures (see below and *Appendix C*, available at *www.healtheffects.org/funding.htm*).

**QUALITY ASSURANCE AND QUALITY CONTROL**

It is the policy of HEI to require that appropriate quality assurance (QA) and quality control (QC) procedures are in place for all approved research projects to ensure the scientific community, our sponsors, and the public that the data are acquired under defined conditions and are reliable and traceable. There are two tiers of QA/QC procedures that HEI applies to all funded studies: general QA/QC procedures for all HEI funded studies and special QA/QC procedures for studies of regulatory significance (see below). A copy of *HEI's QA/QC Procedures for All HEI Studies* is included in Appendix C.

Under the **General QA/QC procedures (Part I),** HEI requires each funded investigator to provide a Quality Assurance Plan that describes the overall QA/QC procedures that will be implemented to ensure data quality and integrity. As detailed in Appendix the Plan should include the following six components: (1) the research protocol; (2) a list of standard operating procedures; (3) a list of qualified personnel; (4) record keeping procedures; (5) documented data processing techniques; and (6) quality control procedures for all data collected. The QA Plan should be developed and submitted to HEI at the start of the study. HEI may conduct

data audits during the course of the study and/or audit the final report if there are concerns about data quality.

**Special QA/QC procedures (Part II)** pertain to approved research projects that may produce data of regulatory significance and include all human studies and certain animal studies. For these studies, HEI will select an outside qualified individual or team to serve as a quality assurance officer to aid in HEI's assessment of QA activities in the study. The external QA officer may conduct periodic audits to ascertain compliance with the study protocol and to examine records. The QA officer will also audit the final report of the study. He or she reports to HEI's Director of Science. The audit reports are confidential and are not released to persons not directly involved in the management of the project. If HEI's Special QA procedures are to be applied to an approved animal study, the investigator will be informed by HEI's Staff Scientist overseeing the project.

The Principal Investigator, and his/her institution, have the primary responsibility for development and implementation of the procedures required by HEI for QA. In some cases — e.g. complex epidemiologic studies or multicenter studies — HEI may be able to provide some funds to support the investigator's time required to develop the protocol and the SOPs. In such cases, the applicant should indicate the period required for these activities and provide a separate budget.

## PROGRESS REPORTS

Progress reports are one of the ways by which HEI keeps informed of the progress of the studies that it supports. Investigators are required to submit progress reports at five and ten months of the first year of the study. In subsequent years, five- and ten-month reports are requested as well. In the final year of the contract, a five-month progress report is requested with a timeline for completing the study and report writing; the ten-month progress report is replaced by a comprehensive final report (see below).

The basic objective of the reports, particularly in the first year, is to indicate how much progress has been made in the development of experimental procedures, which objectives have been completed, and what problems, if any, have arisen. **The ten-month report is a combined progress report and renewal application for the next year's funding.** HEI's decision regarding renewal of the contract is based upon the information provided by the investigator in this report. The ten-month report should provide a detailed account of the experimental results obtained during the funding period, as well as a work plan (including a revised Statement of Work), and a budget for the coming year. Progress reports are reviewed by the Research Committee and by HEI's scientific staff.

Ten-month progress reports for studies funded under the Walter A. Rosenblith New Investigator Award should be accompanied by a letter from the mentor(s) signing off on the progress report, and reporting on the communications with the awardee and other mentoring that has taken place during the past year.

## SITE VISITS

HEI may conduct site visits to the laboratories of its funded investigators during the course of their studies. The site visit team consists of members of the HEI Research Committee, HEI scientific staff, and other experts. The purpose of these visits is to evaluate the status of the project, to provide the investigator with expert technical advice, and to provide an opportunity for an exchange of ideas between the investigator and other experts in the field.

## HEI ANNUAL CONFERENCE AND OTHER MEETINGS

Each year, HEI holds a conference that all principal investigators are expected to attend. The HEI Annual Conference provides an opportunity for HEI's sponsors to learn more about HEI studies, for HEI to receive feedback on its research program, and for informal interactions among investigators, Research and Review Committee members, sponsor representatives, and the HEI staff. Each investigator is asked to submit an abstract and poster. Abstracts are published in the Annual Conference booklet. In addition to discussion of HEI program areas, the Annual Conference generally includes special symposia on broader issues of current interest. Periodically, small workshops are organized for investigators working on projects in a particular research area. These meetings offer an opportunity for investigators doing related research to understand each other's research better and may open opportunities for coordination of studies or collaboration among

investigators. In addition, critical gaps in HEI's program or ideas for new research may be identified. The cost for the PI attending the conference will be paid by HEI and should not be included in the budget for the proposed study.

**FINAL REPORT**

An important goal of HEI is to publish research reports of the highest scientific quality that will be of value to regulators, government officials, scientists, and the interested public. After the research has been completed, each HEI-funded Principal Investigator is required to prepare a comprehensive final report that describes the study and its findings. Because some of HEI's research projects are designed to provide information to be used in regulatory decisions, HEI places an emphasis on timeliness. Detailed instructions regarding the content of the final report and how to submit it are provided in the *Investigators' Guide: Preparing the Final Report*, see http://pubs.healtheffects.org/view.php?id=182.

The HEI Review Committee, which has no role in either the selection of investigators for funding or the oversight of studies, evaluates the investigator's final report. The objectives of the HEI review process are to (1) evaluate the scientific quality and significance of the research, (2) point out the strengths and limitations of the study, (3) place the study into scientific and regulatory perspective, (4) identify future research opportunities, and (5) communicate all the findings (positive and negative) to the Institute's sponsors and the public.

Each final report is peer-reviewed by scientists with appropriate technical expertise, including a biostatistician. A compilation of the comments of the reviewers, together with the Review Committee's initial review, is sent to the investigator, who has an opportunity to respond to these comments and, if necessary, to revise the report. At this stage, the Review Committee generally raises questions about methods, data, results and their interpretations, and conclusions drawn by the Principal Investigator. Occasionally, the Committee may request additional data analyses. After revisions are received at HEI and the Review Committee has discussed them and approved the report, the Review Committee prepares its commentary and an HEI scientific editor edits the report. The investigator is given an opportunity to respond to the commentary prior to publication and is asked to address the editor's queries. **The contractual obligation to prepare a comprehensive final report and to participate in the HEI review process distinguishes HEI from most other funding agencies.** Potential applicants should be aware of the effort associated with this responsibility and plan for it accordingly. HEI expects that the Principal Investigators and key members of the team will devote time during the last year of the study to the preparation and submission of the final report. Investigators should also be aware that report revisions and answering queries from HEI editing staff during the publication process will require additional time at a later date.

The HEI Research Reports, which consist of the investigator's final report and the Review Committee's commentary, are the principal means by which the Institute communicates results of its research and the evaluation and interpretation of those results. They are distributed to HEI's public and private sponsors, the scientific community, libraries that serve medical and scientific communities, and the general public. In addition, the HEI research reports are registered with the National Technical Information Services and the reports are indexed by bibliographic services such as PubMed. Research Reports that have been published during the previous 5 years are listed in Appendix B and are available on HEI's website, http://pubs.healtheffects.org.

Investigators should be prepared to submit, upon request from HEI, information underlying the final data analyses included in the report. Such information may include data sets that contain individual data as well as statistical code and output of statistical analyses with appropriate documentation. This information will be used internally at HEI and will be made available to the Review Committee to assist in their evaluation of the final report. Selected information may be included as appendices to the final report, in consultation with the investigator. Please note that this request is separate from the *Quality Assurance and Quality Control* requirements listed above.

## POLICY ON DATA ACCESS

Providing access to data from studies of the health effects of air pollution is an important element in ensuring scientific credibility, especially for studies used in policy debates. HEI has developed a policy to provide access to data for studies that it has funded in a manner that facilitates the review and validation of the work. The policy also protects the confidentiality of any volunteers who may have participated in the study and respects the intellectual interests of the investigators who conducted the study. A copy of the *HEI Policy on the Provision of Access to Data Underlying HEI-Funded Studies* is in *Appendix D* (available at *www.healtheffects.org/funding.htm)*.

## PUBLICATIONS

HEI encourages investigators to publish results of research conducted under HEI funding in the open scientific literature. HEI retains a nonexclusive license to publish material from work funded by HEI; it is the responsibility of the investigator and his/her institution to notify other publishers of HEI's rights. A statement acknowledging HEI support and a disclaimer must appear in all publications resulting from work funded by HEI. **Please use the disclaimer language in Article 16 of your Research Agreement with HEI**.

The Article states that investigators are free to present material derived from work conducted with HEI funding in peer-reviewed scientific journals or at meetings of established scientific organizations. Investigators are required, however, to inform HEI about the dissemination of the findings; in particular, to send HEI a copy of all **manuscripts based on all or part of the HEI-funded work at the time they are submitted to a peer-reviewed journal, and final versions upon publication.** Similarly, investigators are also required to send **meeting abstracts at the time of submission and the final version of the poster or presentation slides.** Article 16 also states that HEI "discourages the disclosure of the results of the work performed under this Agreement outside the scientific community until after such results have undergone scientific peer review."