

## **Guidelines For Unsolicited Research Proposals**

One of the ways in which ASHRAE research projects are initiated is through the Unsolicited Research Proposal (URP). These are proposals, which are developed and planned by a researcher and then presented to ASHRAE with a request for full or partial funding. The URP should include the following information.

### 1. Title

### 2. Executive Summary

(100 word statement that could be used at the BOD level to succinctly summarize the current state-of-the-art, the advancement this project is expected to accomplish, and its value to ASHRAE and society in general.)

### 3. Applicability to ASHRAE Research Strategic Plan

(List specific goals of the ASHRAE Research Strategic Plan this project will support by name and number (e.g., Goal 3 - To reduce significantly the energy consumption for HVAC&R, water heating and lighting in existing homes) State how the proposed project will help achieve the goals. If the project does not contribute to any of the goals in the ASHRAE Research Strategic Plan, a strong justification of the need for the research must be provided, and the proposal will have a lower likelihood of success. The ASHRAE Research Strategic Plan can be found on the ASHRAE.org Web site under the Research page.)

### 4. Application of Results

(List handbook chapters/special publications etc. to be affected by results of this project, if known. Explain how the results of the proposed project will be disseminated to HVAC&R industry and society in general. What are the practical benefits expected from this research?)

### 5. State-of-the-Art (Background)

(Description of the amount and quality of past research, and quantify existing gaps.)

### 6. Advancement of the State-of-the-Art

(Quantitative estimate of the improvement expected from this research [i.e. x% energy reduction in product y or building type z, x% increase in heat transfer coefficient between y and z, or x% reduction in design time to do y, etc.], and explain why this information is needed by the public or by industry.)

### 7. Justification and Value to ASHRAE

(Identification by number, profession, or industry the ASHRAE members who will benefit. State the likelihood and how the improvement would be adopted by industry.)

### 8. Objectives - A paragraph describing what this URP intends to accomplish.

(Explanation of project's goals and how this project will accomplish its intended advancement to the state-of-the-art [i.e. a computer simulation will be used to do x, a computer simulation will be developed for x and verified using laboratory data from tests y and z, field test data will be obtained from x and used to do y].)

### 9. Scope/Technical Approach

(Provide a complete description of technical approach and task statement. Describe the parameters of the research project, including such items as: subject matter to be explored; materials, equipment, literature or other variables to be researched; materials, equipment, etc to be excluded from the project; outline the research methods to be used; description of the standards to be followed; discussion of how the data is to be reduced, analyzed and presented; description of the format for the reported results; if appropriate, describe project phases.

It is important for the scope of a research project to be broken down into tasks or phases, where a task will yield results of interest to the TC/TG/MTG/SSPC and the Project Monitoring Subcommittee (PMS), or where the results of a task will significantly define how subsequent tasks will be carried out. Make sure that the project objectives are reflected in the tasks. The URP should specify deliverables corresponding to these tasks in the "Deliverables" section to facilitate project monitoring by the PMS.)

## 10. Deliverables

(Insert generic ASHRAE requirements listed below plus any project specific requirements.)

Progress, Financial and Final Reports, Research or Technical Paper(s), and Data shall constitute the only deliverables (“Deliverables”) under this Agreement and shall be provided as follows:

### a. Progress and Financial Reports

Progress and Financial Reports, in a form approved by the Society, shall be made to the Society through its Manager of Research and Technical Services at quarterly intervals; specifically on or before each January 1, April 1, June 10, and October 1 of the contract period.

Furthermore, the Institution’s Principal Investigator, subject to the Society’s approval, shall, during the period of performance and after the Final Report has been submitted, report in person to the most applicable Technical Committee/Task Group (TC/TG or Committee) at the annual and winter meetings, and be available to answer such questions regarding the research as may arise.

### b. Final Report

A written report, design guide, or manual, (collectively, “Final Report”), in a form approved by the Society, shall be prepared by the Institution and submitted to the Society’s Manager of Research and Technical Services by the end of the Agreement term, containing complete details of all research carried out under this Agreement. Unless otherwise specified, six copies of the final report shall be furnished for review by the Society’s Project Monitoring Subcommittee (PMS).

The Final Report shall include an Executive Summary of approximately 800 words that includes the need that initiated the project, a brief description of the technical approach, the results and how the results will benefit the industry and/or the public.

Following approval by the PMS and the TC/TG/MTG/SSPC, in their sole discretion, final copies of the Final Report will be furnished by the Institution as follows:

- An executive summary in a form suitable for wide distribution to the industry and to the public.
- Two bound copies
- One unbound copy, printed on one side only, suitable for reproduction.
- Two copies on disk or CD-ROM; one in PDF format and one in Microsoft Word.

### c. HVAC&R Research or ASHRAE Transactions Technical Paper

One or more papers shall be submitted first to the ASHRAE Manager of Research and Technical Services (MORTS) and then to the “ASHRAE Manuscript Central” Website-based manuscript review system in a form and containing such information as designated by the Society suitable for publication. The papers should be submitted as either Research Papers for HVAC&R Research or Technical Paper(s) for ASHRAE Transactions. Research papers contain generalized results of long-term archival value, whereas technical papers are appropriate for applied research of shorter-term value, ASHRAE Conference papers are not acceptable as deliverables from ASHRAE research projects. The paper(s) shall conform to the instructions posted in “Manuscript Central” for an ASHRAE Transactions Technical or HVAC&R Research paper. The paper title shall contain the research project number at the end of the title in parentheses, e.g., (xxxx-RP).

Note: A research or technical paper describing the research project must be submitted after the TC has approved the Final Report. Research papers may also be prepared before the project’s completion, if it is desired to disseminate interim results of the project. Contractor shall submit any interim papers to MORTS and the PMS for review and approval before the papers are submitted to ASHRAE Manuscript Central for review.

### d. Data

The Institution agrees to maintain true and complete books and records, including but not limited to notebooks, reports, charts, graphs, analyses, computer programs, visual representations etc., (collectively, the “Data”), generated in connection with the Services. Society representatives shall have access to all such Data for

examination and review at reasonable times. The Data shall be held in strict confidence by the Institution and shall not be released to third parties without prior authorization from the Society, except as provided by GENERAL CONDITION VII, PUBLICATION. The original Data shall be kept on file by the Institution for a period of two years after receipt of the final payment and upon request the Institution will make a copy available to the Society upon the Society's request.

e. Project Synopsis

In addition to the approximately 800 word summary in the final report, Contractor will prepare a written synopsis totaling approximately 100 words in length and written for a broad technical audience. The synopsis shall document 1. Main findings of research project, 2. Why findings are significant, and 3. How the findings benefit ASHRAE membership and/or society in general. The synopsis shall be submitted to the MORTS by the end of the Agreement term for publication in ASHRAE Insights and on the Research Page of the ASHRAE Website ( for keyword searches but Internet users) .

The Society may also request the Institution submit a technical article suitable for publication in the Society's ASHRAE Journal. This is considered a voluntary submission and not a Deliverable. Technical articles shall be prepared using dual units; e.g., rational inch-pound with equivalent SI units shown parenthetically. SI usage shall be in accordance with IEEE/ASTM Standard SI-10.

(The above deliverables are necessary, but not sufficient, to monitor a research project. The PMS and the sponsoring TC have the responsibility to review the contractor's on-going activities and intermediate results, to ensure that the methods used and results obtained will be valid and well-enough substantiated to be labeled as "ASHRAE-approved findings." Proper oversight cannot wait until the final report, when most of the budget has already been expended.

Therefore, each major task or phase of the research method outlined in the Scope should also be linked to a deliverable report, memorandum, or summary. These in-progress deliverables should not add to the cost of the project, as they will most likely become chapters of the final report. However, they should help the TC avoid unpleasant surprises due to the research not being conducted according to the TC's expectations. Examples of deliverables that could be required during the project include:

- If one task is a literature review, then the deliverable could be an annotated list of references and conclusions/summary of the current state of the art.
- If the contractor must propose specific sites (e.g., buildings), experiment topologies (e.g., duct configurations), materials (e.g., refrigerants, appliances, insulation or building materials), experiment protocols, and/or instrumentation, then short memos describing those proposed methods, materials, etc. should be deliverables to be reviewed and approved by the PMS before moving on to the next research task.
- If analysis of preliminary data or results will decide how to proceed (e.g., CFD models of 12 duct configurations will be used to select 2 duct configurations to be built and subjected to wind tunnel tests), then the contractor should write up the results of the initial analysis, recommend the areas for further more detailed investigation, and justify those recommendations.
- If data from the research are expected to modify or update a Handbook table, then the procedure for developing the updated table from the data should be specified and provided to the PMS as a deliverable. (The final report may also require the contractor to prepare a proposed updated table based on the observed data.)

In short, the technical approach for a research project should be broken down into tasks or phases, and where a task will yield results of interest to the TC and the PMS, or where the results of a task will significantly define how subsequent tasks will be carried out. The URP should specify such intermediate deliverables for the PMS to review. This approach will make it easier for the PMS and MORTS to gauge progress and technical merit of on-going ASHRAE research projects, and will provide a framework for the cognizant TCs to provide technical oversight and assistance to identify and correct problems as they occur.)

## 11. Schedule

Description of project milestones and duration.

#### 12. Costs

Detail breakdown of expenses into categories and itemized list of equipment, travel, subcontracts, and other direct expenses; Timing of expenditures; Description of cost sharing of proposing organization or others.

#### 13. Personnel

Education, experience and expertise of researchers that qualifies them to perform the work.

#### 14. References

List references cited in the proposal.

A copy of the URP, containing a completed "Application for Grant of Funds" form, should be submitted to the Manager of Research & Technical Services (MORTS), who will then distribute it to the appropriate research liaison for review and evaluation.

The Research Administration Committee (RAC) normally meets in late June and late January of each year, so URP's should be submitted by mid-May or by mid-December to be considered for the next meeting. The results of the reviewing committees' actions will be made known to the proposer by mid-February or mid-July.

Proposals should be submitted to:

MANAGER OF RESEARCH & TECHNICAL SERVICES  
ASHRAE  
1791 Tullie Circle, NE  
Atlanta, GA 30329  
MORTS@ashrae.net

**UNSOLICITED RESEARCH PROPOSAL (URP)  
DISCLOSURE ACKNOWLEDGEMENT**

1. ASHRAE recognizes the need to encourage innovative research proposals which address the needs of ASHRAE members and society in general. In order to be considered for funding, URPs should fall within the general research goals of the Society but not overlap significantly with ongoing or planned research activities of individual TC (or TG, MTG w/research authority, SSPCs or other committees authorized to sponsor research projects). Unique and innovative projects that cut across research activities within different TCs are especially welcomed.
2. URPs will be accepted only with the understanding that they are non-confidential, although every attempt will be made to respect the proprietary nature of the proposal. This non-confidentiality will permit, if need be, a modification of the URP into a Work Statement which better meets the needs of the Society and which may be distributed as part of a Request for Proposal to numerous researchers for competitive bidding.
3. If a URP is received which addresses a topic already contained in the ASHRAE Research Implementation Plan or under development within a TC, the URP will be returned to the proposer with an explanation as to its status in the Research Implementation Plan or applicable TC research plan unless the interests of the Society are better served by its consideration.
4. If the URP is considered for funding, then the Research Activities Committee (RAC) will be responsible for managing the evaluation process.
5. Unsolicited proposals will only be accepted by the Society upon receipt of a signed acknowledgment of this Procedure.

I have read and understand the above policy on disclosure of Unsolicited Research Proposals (URPs) submitted to ASHRAE

Signed: \_\_\_\_\_  
Principal Investigator

Date: \_\_\_\_\_

Printed Name and Title: \_\_\_\_\_

Signed: \_\_\_\_\_  
Authorized Representative of Proposing Institution

Date: \_\_\_\_\_

Printed Name and Title: \_\_\_\_\_

Institution (if applicable): \_\_\_\_\_

Title of Proposal: \_\_\_\_\_