EDITORIAL

Research Planning for the HVAC&R Industry

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In every issue of this journal, papers are published that represent the end points of significant research programs. The authors give background, methodologies, results, and conclusions. The background sections generally explain why the work is of interest and how it relates to past published work. Acknowledgments of the funding sources are often given but, seemingly without exception, the process that leads to the funding decision is never described. While this is appropriate for a research journal, I would like to take the opportunity in this editorial to discuss the steps leading up to the research funding decision as it applies to one particular research program.

The publishers of this journal, the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE), also run what is presumably the world's largest non-corporate, non-governmental HVAC&R research program. Over the course of the 2006–2007 ASHRAE fiscal year, over 50 projects were actively in progress, and this past year's research budget was approximately 2.3 million USD. The research projects are conceived, proposed, awarded, and managed by about 100 technical committees and groups. Direct oversight is provided by the Research Administration Committee (RAC), who in turn report to the Technology Council, who in turn report to the board of directors. Altogether, there are on the order of 1000 volunteers involved in this process, supported by a handful of ASHRAE paid staff.

For the most part, the research program might be characterized as being managed from the bottom up rather than from the top down—well-written, well-justified work statements put together carefully by dedicated volunteers tend to be approved for funding. So, is it possible for the society to have a coordinated research plan in any meaningful sense?

Between 2003 and 2005, the ASHRAE Research Advisory Panel (RAP) developed the ASHRAE Research Strategic Plan for the years 2005–2010. Over a two-and-a-half year period, the RAP solicited input from within and without the society, published a series of drafts, and went through several comment/revision cycles, finally delivering a research plan (available at www.ashrae.org/research) divided into five research opportunity themes:

- Energy and Resources
- Indoor Environmental Quality
- Tools and Applications
- Equipment, Components, and Materials
- Education and Outreach

The five research opportunity themes contain 28 specific goals, such as "Develop economically viable applications of renewable energy that produce 25% reductions in conventional energy use by 2015."

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This plan was adopted by the ASHRAE board of directors in 2005 and has served as one of several criteria in determining whether or a not a work statement should be approved for funding, and, if so, the priority for funding. The RAC has tracked the proposed research projects with respect to the degree that each project serves one or more of the plan goals. After a couple years of doing this, it is clear that this is a difficult task, whether evaluating the potential of research to meet the plan goals or evaluating, in the event, the degree to which any completed research project has actually contributed to meeting a specific goal. Based on anecdotal evidence, the Research Strategic Plan has served to inspire some technical committees, reinforce the work of others, and, regrettably, alienate a few. To further answer the question asked previously—whether or not it is possible for the society to have a coordinated research plan in a meaningful sense—it is too early to give a complete answer. The research program has been likened to a large ship that can only be turned very slowly, and this seems to be an apt analogy.

To give a more complete answer is one of the tasks of the recently appointed RAP, which will begin its work shortly, starting with evaluation of the success of the society's research program in meeting the 2005–2010 plan. This will be followed with development of the 2010–2015 Research Strategic Plan. The new RAP will be soliciting input from within and without ASHRAE. We look forward to receiving your input!