

**TC 7.9 Research Subcommittee Report**

2004 Annual Meeting

Saturday, January 24, 2003, 1:00-3:00pm

Anaheim Convention Center 213C

**1. Call to Order (Dave Shipley)**

Attendees: Ken Peet, J.R. Anderson, Maria Corsi, Daniel Choiniere, Ken Gillespie, Kristin Heinemeier, Daniel Henon, Natascha Castro, Janice Peterson.

**2. Funded Projects**

<i>Priority</i>	<i>Title</i>	<i>Status</i>	<i>Contractor</i>	<i>Notes</i>
	RP 1137 – Field Performance Assessment of VAV Control systems Before and After Commissioning	In-Progress	Patrick Fleming/ Stantech Consulting	Meeting this evening at 5, presenting final report. PMSC met in KC and had lots of comments and concerns. They were provided to PI and they have improved the document in response. 20 MB file or something, so it hasn't been distributed. Important to 7.6 also, because of potential impact on test method.

**3. Projects in the Pipeline**

*(Note: A new research plan is not due at this time. The priority order shown below has not been formally voted on by the subcommittee and should be considered approximate. It will be finalized in Nashville.)*

**Presentation about 1312-WS Tools for Evaluating Fault Detection and Diagnostic Methods for Air-Handling Units**

Maria Corsi distributed a summary and detailed work statement on behalf of the author, John House. She described the objectives of the project:

- Adapt an existing simulation model of an AHU to produce fault-free and faulty data for a number of different types of faults and for a range of severities that can be used to assess the performance of AHU AFDD methods.
- A further objective is to validate the simulation model using data from a laboratory or field site.
- Those data also could be used to test AFDD methods for AHUs.

Ken Gillespie expressed concern about overlap with 1092, which is using Air Model. This project is just starting up this meeting. The work statement needs to address that issue. Ken will provide a copy of that work statement to John House. Kristin indicated that our co-sponsorship would require more comment about commissioning. Some of the faults are commissioning-related; others are more related to continuous commissioning.

The Research Subcommittee expressed interest in this work statement, but will consider it again at the next meeting, when we will be identifying our top priorities for submission to ASHRAE.

<i>Priority</i>	<i>Title</i>	<i>Status</i>	<i>Author</i>	<i>Notes</i>
1	1274-TRP: Field Performance Assessment of Packaged Equipment to Quantify the Benefits of Proper Service and Assessing the Long Term Need for Monitoring, FDD, and Continuous Commissioning Technology	Work Stmt	Todd Rossi	Sponsored by 4.11; Prioritized RTAR. This went out to bid and some bids were received. A PES is meeting in Anaheim to recommend which bid to accept. Meeting tomorrow night for final selection – two out of three are very good.
2	RTAR 2005-56: The Impact of Commissioning on Comfort	RTAR	Dave Shipley	RTAR drafted, revised according to some preliminary comments from TC 2.1, and submitted. RTAR returned by RAC with comments. The comments are substantive and point to the need to step back and do some other things first. Ken Gillespie will provide Kristin Heinemeier with information on the project to develop a database of commissioned buildings in California; Kristin will then prepare an RTAR to “Compile a National Database of Commissioning Case Studies.”
3	RTAR 2005-57: Utilization of Random Sampling Technology in Performing Building Commissioning	RTAR	J.R. Anderson	Draft RTAR submitted. No comments were returned. Subcommittee passed a motion in reference to this RTAR, as detailed below this table.
4	Performance Test Methods for existing rooftop units	Title	Needs Champion	Dovetail with TC4.11 project on Field Performance Assessment. No action at this time.

<i>Priority</i>	<i>Title</i>	<i>Status</i>	<i>Author</i>	<i>Notes</i>
5	Field-Based Evaluation of Functional Performance Tests	Title	Needs Champion – maybe Phil Haves?	Select subset of FPT Library and evaluate the technical and practical aspects of the proposed methods.
6	Methods of Improving Persistence of Commissioning Savings in Control Systems	Title	Ken Peet, David Underwood	Ken Peet submitted a Forum that seems to have been approved but didn't fit into the Anaheim schedule. He will try again.
7	One Time vs Short-Term vs Seasonal Testing of Air-Handling Units	Title	Mingsheng Liu	Awaiting outcome of WS-1092

**Motion** – In response to discussion of RTAR #3, the Research Subcommittee would prefer that TC 7.9 take an official position that Guideline 0 should permit targeted sampling or weighted sampling that accounts for the potential impact of specific equipment.

**4. Overall Discussion of TC 7.9 Research**

Ken updated us on activities in California. There is considerable work going on related to commissioning. There is a website for the California Commissioning Collaborative, [cacx.org](http://cacx.org), which provides some information on these activities. There are tools being developed, to generate specifications, identify costs, design intent, with hopes of adding tools for training and system manuals. Energy Design Resources and Savings By Design, energy efficiency program sfunded by the California utilities, is funding the work. Information is on the website [energydesignresources.com](http://energydesignresources.com). The programs are statewide, but each utility implements it in its own service territory.

Guideline 20, XML Definitions for HVAC&R, is using the flowchart from Guideline 1-1996, to look at the information flow that happens in the commissioning process. Goal is to include commissioning as a topic within Guideline 20. XML is the system for helping transfer data from one software system to another.

We need to stake out our ground in the research area. We've been so unsuccessful in getting research funded that we need to figure out where our unique place is that isn't already covered by other committees. We perhaps need to identify more rigorously scientific definitions that we can use to design research projects that meet the scientific standards ASHRAE research committees are used to. A data model is perhaps the way to address this.

Texas A&M is doing a study of two schools, one not commissioned (already built) and the other to be commissioned. Kristin distributed a project description and solicited comment.