

## TC9.9 - Building Commissioning Additional Research Ideas

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<b>Item</b>	<b>Project Description</b>	<b>Organizations Involved</b>	<b>Status</b>
1	CoolTools Chilled Water Plant Design and Specification Guide: includes commissioning		Nearly complete
2	Air-side Sensor Project	CEC / PG&E	Complete
3	Water-side Sensor Project		Ongoing
4	Market Assessment - Study the effectiveness of EE installations and the impact Building Commissioning might have	PG&E/CBEE	Ongoing
5	Universal Translator - Tool Lending Library / Application notes	PG&E-PEC	Ongoing
6	BacLink		Tool complete; demonstration project pending
7	Air Compressor Performance Tool		Under development
8	Motor Analysis Tool		Under development
9	Energy Design Resources Insurance Program	PG&E / DPCI	Under development
10	Commissioning Introduction to Owners Training Module		Under development
11	Commissioning How to Guide for the Design Community		Under development
12	Develop Library of Commissioning Verification Test Plans		Under development
13	Development of a Commissioning Design Intent and Performance Assessment Tool		Under development
14	Commissioning Practitioners Training Program Development	BCA	Under development
15	Training Program Development (Education of Potential Users and	ASERTTI, ECW, Facility Dynamics	Under development

	Application for Technicians)	Engineering	
16	Clean Room Benchmarking / Design Standards		Under development
17	M&V Value Tool	CEC /PG&E	Beta version complete, contract for version 2 specification pending
18	Research Proposal	CEC / LBNL + PG&E + others	Start pending
19	EMS Commissioning Protocol		Defer to ASHRAE Guideline 11P
20	Identification of Ideal Monitoring Points for HVAC Commissioning Support (New construction & existing buildings)		
21	Retro-Commissioning of past EMS Projects		
22	Refrigeration Design Tool		
23	Single Duct Diagnostic Tool		
24	Daylighting Control Diagnostic Tool		
25	Commissioning of Large Roof Top A/C Program		
26	Scoping Study for Development of a Virtual Training Tool for Operators/Commissioning Practitioners		
27	Development of a Commercial Market Segment Model to Identify Commissioning Opportunities		

The Research Subcommittee may want to consider taking advantage of some of these research initiatives already underway or development through other organizations, either to build on them or to explore collaborative projects. If you are interested in this possibility, please contact Kenneth Gillespie, PG&E (contact information on members-only TC website), and consider developing it as a discussion item for the Minneapolis meeting.