



REINHARD G. SEIDL, P.E.

PRINCIPAL

Mr. Seidl is a registered mechanical engineer with an MS in Mechanical Engineering from the Delft University of Technology in the Netherlands.

He has 25 years of experience in commercial and industrial HVAC and control system design and commissioning. Initially with a Dutch construction company specializing in industrial projects in Africa and the Middle East, subsequently with a design-build construction company in California, and currently as a Principal with Taylor Engineering.

EDUCATION

M.S. Mechanical Engineering, Delft University of Technology, 1991

REGISTRATIONS

Mechanical Engineer, California #030676

AFFILIATIONS

American Society of Heating, Refrigeration, and Air-Conditioning Engineers

YEARS OF EXPERIENCE

26 years total
14 years with Taylor

Mr. Seidl has experience in a wide range of project types, including petrochemical, semiconductor, pharmaceutical, clean room, heavy industrial, hospital and office buildings. Designing a Shell refinery control building in Mombasa, Kenya involved various stages of chemical filtration and detection, as well as a blast-proof mechanical room able to withstand explosions on site.

A Urea factory for Khorasan Petrochemical required another blast-proof building with chemical filtration, as well as the design of a steam heating facility for the Urea storage warehouses.

Mr. Seidl's design of a Aluminum Rolling Mill in Egypt added to his experience with large industrial projects.

Working for a design/build contractor in California, Mr. Seidl designed projects such as the Silicon Graphics Headquarters in Mountain View, California (now Google Headquarters), which is a 550,000 sqft 4-building office campus. The Palo Alto Medical Foundation headquarters in Palo Alto, and the Sun Microsystems campus in San Jose are other examples of large, multi-building complexes Mr. Seidl has worked on.

His work at the Palo Alto Medical Foundation also allowed Mr. Seidl to familiarize himself with standards for medical facilities, and included the construction supervision of Catscans, MRI's, Linear accelerators, Lasers for Ophthalmology, and other specialized equipment.

In ACCO's process division, Mr. Seidl acted as project manager for that company's first design-build semiconductor project, and the first pharmaceutical design-build project, which involved not only the engineering for those projects, but also the development of



engineering standards for the biotech and semiconductor disciplines.

Next to hands-on technical design and commissioning work, Mr. Seidl is now involved the development of new company and industry tools and standards, which include his work on ASHRAE's Standard 202 for commissioning of Buildings and Systems, and a trend analysis tool developed in a joint venture with Lawrence Berkeley Lab, NIST, PG&E and Quest which is available for free to other engineering organizations.

SIMULATION TOOLS

- **TrendAnalyzer:** Conceived a tool for automating large scale whole-building trend analysis for commissioning. Supervised in-house implementation of programming.
- **Universal Translator:** Managed merging of TE-developed program code into Pacific Gas & Electric Universal Translator (UT). The UT is a free tool, available at www.utoonline.org, which allows commissioning agents and building engineers to assess how well their building is working.

SELECTED PUBLICATIONS

Mark Hydeman, Reinhard Seidl and Chuck Shalley *Staying Online: Data Center Commissioning*. ASHRAE, Atlanta GA. June 2005.

Reinhard Seidl. *Trend Analysis for Commissioning*. ASHRAE, Atlanta GA. January 2006.

Reinhard Seidl. *Universal Translator*. ASHRAE, Atlanta GA. July 2007

Reinhard Seidl. *Using Demand Based Reset Strategies*. Proceedings of the National Conference on Building Commissioning 2008. See <http://www.peci.org/ncbc/2008/docs/Seidl.pdf>

PRESENTATIONS AND SEMIMARS

"Innovations in Evaporative Cooling and Water Treatment", PG&E Energy Center, San Francisco, CA, December 2005

"Using EMS Systems for Building Performance and Retro-Commissioning"

PG&E Energy Center, San Francisco, CA, February 2006

PG&E Energy Center, San Ramon, CA, March 2006

AMD, Sunnyvale, CA, March 2006

Radisson Hotel, Fresno, March 2006

National Conference on Building Commissioning (NCBC), San Francisco, CA, April 2006

"Commissioning made accessible", California Commissioning Council, San Ramon, CA, November 2006

"Retrofits for High-Tech Facilities", PG&E Energy Center, San Francisco, CA, October 2006

"Data Analysis with the Universal Translator", PG&E Energy Center, San Francisco, CA, November 2006

"Universal Translator – Advanced Topics" PG&E Energy Center, San Francisco, CA, November 2006



"Design and Commissioning of Optimized Chilled Water Plants", PG&E Energy Center, San Francisco, CA, April 2007

"Universal Translator" demonstration case study, California Commissioning Council, Newport Beach, CA, April 2008

"Supply Air Temperature and Pressure Setpoint Reset in VAV Systems Based on Zone Demand", National Conference on Building Commissioning (NCBC), Newport Beach, CA, April 2008, see http://www.peci.org/ncbc/2008/ncbc_proceedings_08.html

"The Way Things Work: Publicly Available Cx Tools", Universal Translator presentation, National Conference on Building Commissioning (NCBC), Newport Beach, CA, April 2008, see http://www.peci.org/ncbc/2008/ncbc_proceedings_08.html

"EMCS Data Exchange – Challenges and Lessons learned", Seminar 27, ASHRAE conference, Salt Lake City, June 2008

"A Scalable Approach to Energy Improvement", EMC (Energy Management Congress), Long Beach, CA, June 2009

"Functional Testing: From Basics to Critical Facilities", Seminar 12, ASHRAE conference, Orlando, January 2010

"Practical Commissioning", PCAPPA, San Francisco, October 2011

"ASHRAE Research Procedures", ASHRAE San Jose Chapter, March 2012

"HVAC Systems and Considerations for Construction", Plant Construction, July 2012

"Introduction to ASHRAE Standard 202", PG&E Energy Center, July 2013

"Universal Translator 3", PG&E Energy Center, July 2013

"Free Energy Data Tools for Cx – Universal Translator 3", NCBC conference Hartford, CT, May 2014

"Lab Safety and Fire Alarm Response", Seminar 4, ASHRAE conference, Chicago, January 2015

"What an Owner should know about Commissioning", RMW Architects, San Francisco, March 2015

"Universal Translator 3", All-day seminar (in-class plus webcast), PG&E Energy Center, San Francisco, CA, April 23, 2015

"Avoiding the Blame Game in Commissioning", California Commissioning Collaborative webcast, May 27, 2015

REPRESENTATIVE PROJECTS

160 Pine Street	San Francisco, CA, 7 stories, 90,000 ft ²
Cathedral of Christ the Light	Oakland, CA, 5 stories, 235,000 ft ²
Chevron Central Plant	San Ramon, CA, 2,500 tons
CSU Maritime Academy, PE Building	Vallejo, CA, 47,000 ft ²
Egyptalum Aluminum Rolling Mill	Nag Hammady, Egypt, 200,000 ft ²
Hewlett Packard chiller plant	Palo Alto, CA, 6 buildings, 3,000 tons
Khorasan Petrochemical, Urea storage	Khorasan, Iran, 150,000 ft ²
Khorasan Petrochemical Control Bldg	Khorasan, Iran, 1 story, 3,000 ft ²
McKesson Plaza controls retrofit	San Francisco, 38 story, 437,000 ft ²
KLA Tencor	Livermore, CA, 2 stories, 120,000 ft ²



KLA Tencor	Milpitas, CA, 3 buildings, 680,000 ft ²
Lawrence Berkeley National Labs	
FlexLab	Berkeley, CA, 6,500 ft ²
NERSC 5	Oakland, CA, 2,400 tons, 20,000 ft ²
NERSC 6	Oakland, CA, 3,500 tons, 20,000 ft ²
Building 37 Low Conductivity Water Plant	Berkeley, CA, 625 tons
Building 33 General Purpose Lab	Berkeley, CA, 43,000 ft ²
Building 45 Fire Station	Berkeley, CA, 3,500 ft ²
Building 62 Lab Remodel	Berkeley, CA, 50,000 ft ²
Building 67 Chiller and Boiler replacement	Berkeley, CA, 60 tons, 9,000 kBtu/h
Building 71 Laser Lab upgrades	Berkeley, CA, 5,000 ft ²
Building 74 Earth Sciences Lab	Berkeley, CA, 35,000 ft ²
Building 77 Machine Shop	Berkeley, CA, 55,000 ft ²
Building 86 Animal Lab	Berkeley, CA, 5,000 ft ²
nVidia Data Center	San Jose, CA, 15,000 ft ²
Oracle 3OP	Redwood Shores, CA, 16 stories, 330,000 ft ²
Palo Alto Medical Foundation, incl. animal labs	Palo Alto, CA. 4 stories, 300,000 ft ²
Palo Alto Medical Foundation	Palo Alto, CA, 3 stories, 40,000 ft ²
Palo Alto Medical Foundation	Fremont, CA, 3 stories, 75,000 ft ²
Palo Alto Westin Hotel	Palo Alto, CA, 5 stories, 184 rooms
Pixar Phase II	Emeryville, CA. 2 stories, 110,000 ft ²
Ross Stores Headquarters	Pleasanton, CA, 5 stories, 150,000 ft ²
Ross Stores Headquarters	Dublin, CA, 3 buildings, 350,000 ft ²
San Diego State University, Aztec Student Union	San Diego, CA, 3 stories, 200,000 ft ²
San Diego State University, Cafeteria and Housing	San Diego, CA, 10,000 ft ²
San Francisco SPCA	San Francisco, CA, 1 story, 45,000 ft ²
San Francisco State University	San Francisco, CA, 10 buildings, 1.3 min ft ²
San Jose State University Campus Village 2	San Jose, CA, 10 stories, 130,000 ft ²
San Jose State University Student Health	San Jose, CA, 3 stories, 50,000 ft ²
Shell/KPRL Petroleum Refinery Control Bldg	Mombasa, Kenya, 1 story, 5,000 ft ²
Silicon Graphics HQ	Mountain View, CA. 2 stories, 550,000 ft ²
Veterans Administration	Palo Alto, CA, 5 stories, 750,000 ft ²
Watergate Towers 3 building campus	Emeryville, CA, 12-16 stories, 820,000 ft ²

OTHER PROJECTS AND STUDIES

Chukchansi Casino and Resort	Fresno, CA, 5 stories, 250,000 ft ²
Palo Alto Medical Foundation, Fremont	Fremont, CA, 1 story, 5,000 ft ²
Mendel Biotech, plant growth rooms	Hayward, CA, 1 story, 2,000 ft ²



Form Factor, clean rooms and process systems	Livermore, CA, 1 story, 17,000 ft ²
Point Biomedical, clean rooms and process systems	San Carlos, CA, 1 story, 10,000 ft ²
Santur semiconductor, clean rooms and process systems	Fremont, CA, 1 story, 3,000 ft ²
Sun Microsystems San Jose Campus	San Jose, CA, 2 stories, 250,000 ft ²
ISE Labs semiconductor testing facility	Fremont, CA, 1 story, 20,000 ft ²
San Jose Sharks ice rink	San Jose, CA, 1 story, 20,000 ft ²