

ENERGY EFFICIENCY PARTNERSHIP PROGRAM
BEST PRACTICE AWARDS APPLICATION FORM

I. CONTACT INFORMATION

Campus: College of the Canyons
Department: Physical Plant and Facilities Planning
Contact name/title: Jim Schrage/Vice President
Telephone: (661) 362-3030
Fax: (661) 362-5832
Email: jim.schrage@canyons.edu

II. PROJECT CATEGORY- see attached category descriptions

NEW CONSTRUCTION

- Best Overall Sustainable Design
- HVAC Design/Retrofit
- Lighting Design/Retrofit

SUSTAINABLE OPERATIONS

- Water Efficiency/Site Water Quality
- Innovative Waste Reduction
- Student Energy Efficiency
- Student Sustainability Program

III. PROJECT/ PRACTICE INFORMATION

A. GENERAL QUESTIONS

Project/practice name: Retrofit and install new chilled water and heating hot water system with co-generation. These new efficient Central Plants (North, South and I building) will deliver cost effective heating and cooling to the entire College Campus in Santa Clarita.

Project/practice location: College of the Canyons

Implementation cost: Approximately \$14.8M (\$3M new structure, North Central Plant)

Estimated annual energy savings (as applicable): KWH & Therms

Estimated life cycle cost savings (as applicable): Estimated \$13 million

Description- Provide a detailed narrative describing the project or practice.

College of the Canyons (COC) partnered with Compass Energy Solutions (CES) to reduce its usage of electricity and natural gas while updating aged energy end-use equipment. Compass Energy Solutions developed the basis for design and collaborated with Kruger Bensen Ziemer Architects (KBZ), d'Autremont Helms and Associates (dHA) Mechanical Engineer and CALPEC Electrical Engineer to design the state of the art co-generation and heating and cooling central plants. CES and its joint venture partner substantially completed this project in 2008. The energy savings justified a generous \$1.2 million incentive/rebate through California Community College/Investor Owned Utility (CCC/IOU) and self generation programs. COC is currently adding a number of new buildings to this efficient system. North and South Central Plants are equipped with centrifugal chillers, absorption chillers, Distributed Generation system consisting of an engine generator to reduce Campus electric demand, efficient heating hot water boilers, cooling towers, VFDs and an Energy Management System (EMS) to interface with the college's existing Campus-wide controls system. I Building Central Plant was retrofitted with a centrifugal chiller, cooling tower, VFDs and EMS system for performance monitoring and scheduling operation of the equipment.

CES worked with COC's Cooperative Work Experience Education (CWEE) program to hire a summer intern from the construction management curriculum to provide a learning experience for that student. This was a mutually beneficial experience for CES and COC.

Relevancy to the Best Practices program- Describe the features of the project/practice that qualify it as a best practice of potential interest to other campuses (eg. replicability).

From the beginning, we have focused on an integrated approach in developing our energy efficiency and capital improvement projects. We have blended low payback period ECMs with longer return on investment ECMs to make sense of our dollar investments, utility rebate and our approved bond dollars. We have also stayed equipment neutral and taken advantage of the best technology regardless of name brand.

Design integration- If appropriate; describe the ways in which this project/practice incorporated multiple disciplines and/or stakeholders into the design process. Describe how collaboration produced sustainable solutions or improved the project's performance.

College of the Canyons approach goes beyond the parameter of single Energy Conservation Measure (ECM) identification and implementation. Our philosophy is to explore new and creative alternatives that will maximize the financial resources available to us and to promote environmental stewardship and the best sustainable operating practices for the entire campus. We have involved everyone from field personnel, director, vice president, president and the board of directors to buy-in the overall process. COC selected CES to champion the energy efficiency concepts and retained KBZ/dHA/CALPEC to design the system. With the guidance of our Energy Services Company (ESCO), we have integrated our overall strategy to develop and implement the best and most cost effective energy efficiency partnership program. We collaborated with Southern California Edison for Interconnect Agreement and we are transporting natural gas through our ESCO partner.

Load management- If appropriate, describe how the project/practice provides on-peak electricity demand reduction, or demand response capability.

Not applicable.

B. DEPENDENT QUESTIONS- This section contains questions that are relevant **ONLY** for certain awards. If the award you are submitting under is listed, please address the question that follows.

Best Overall Sustainable Design:

Please describe the design of the building envelope, focusing on its effect on the facility's overall energy-efficiency.

Not applicable.

Water Efficiency/Site Water Quality:

Please provide an estimate of the annual amount of water saved or treated.

Not applicable.

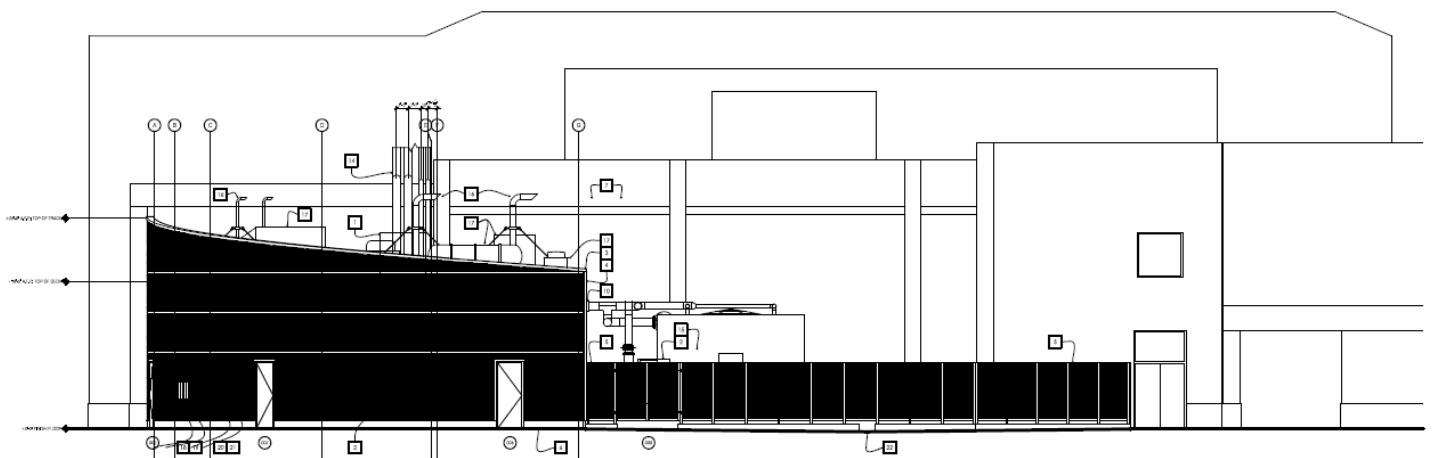
Best Overall Sustainable Design; HVAC Design; HVAC Retrofit; Lighting Design/ Retrofit; and Water Efficiency/ Site Water Quality, if applicable:

Please describe how the project/practice has been received by building occupants. Describe what has been met with satisfaction or dissatisfaction, and why.

The new chillers and heating hot water boilers are much more effective in cooling and heating the buildings and the noise level has been reduced significantly to enhance the learning and working environment. We have received numerous compliments about comfortable temperatures. There is more reliability and redundancy in the overall operation, while establishing less dependence from the utilities.

IV. ADDITIONAL INFORMATION

Please provide any additional information necessary to assist the selection team in understanding and evaluating the project. Supplemental information in the form of photos, drawings, etc. may be submitted.



North Central Plant Architectural Elevation

IV.A North Central Plant



North Central Plant Exterior Views



North Central Plant Interior Views

IV.B South Central Plant



South Central Plant Exterior Views



South Central Plant Interior Views

V. SUBMISSION DIRECTIONS

Please submit proposals (electronic transmission only) by **April 10, 2009** to:

Dan Estrada
Energy Specialist
California Community College Chancellor's Office
Email: destrada@cccco.edu
Phone: 916-324-8901

Please visit the UC/CSU/CCC Sustainability Conference webpage at

<http://sustainability.ucsb.edu/conference/index.php>