



Definition of the Energy Efficiency Sector

For Allocation of Prop 39 Workforce Grant Funds

General

The Proposition 39 workforce RFA targets occupations in the commercial, industrial, and institutional sectors of energy efficiency and clean energy generation. Residential and agricultural occupations are excluded.

Energy Efficiency Program Definition

Energy consumption and clean energy generation occur on the customer or “demand” side of the utility meter. This includes the power meter, gas meter, and water meter. Energy efficiency programs – for purposes of the Prop 39 workforce RFA - reduce demand side energy consumption in commercial, institutional, and industrial buildings.

Technologies

Within demand-side applications for commercial, institutional, and industrial buildings, energy efficiency technologies fall into three general categories:

- Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R)
- Lighting and lighting controls
- Building envelope (roofing, insulation, windows, etc.)
- Renewable Energy related to energy consumption in a building

Related technologies for environmental controls can be eligible for Prop 39 funds allocation:

- Lighting control systems (e.g. California Advanced Lighting Controls Training Program)
- Environmental Control Systems (sensors, controls, and networking specifically for HVAC/R)
- Building Automation Systems, if related to HVAC/R or lighting controls

Foundational Workforce Programs

Selected programs such as Electrical, Plumbing, Sheet Metal, Drafting, OSHA, and others are considered “foundational” to an Energy Efficiency pathway and are eligible for Prop 39 workforce funds allocation.

Please see the attached list of approved TOP Codes for Prop 39 workforce eligibility.

Timeline for Prop 39 Applications and Approvals

Updated 5/22/2014

August 1 Colleges apply for funds based on a tentative self-report of completers. The completer numbers will need to be verified by CCCCCO or colleges themselves in late September when MIS data is available. This verification in late Sept/early October will determine the amount of funding awarded.

August 15 Regions complete review of data, file applications with CCCCCO for Program Improvement funds based on number of completers.

September 1 CCCCCO approves regional Program Improvement fund applications, subject to final review of official MIS completion data.

September 15 Regions file work plans with CCCCCO for investment of Program Improvement funds.

October (TBD) Transfer of Prop 39 Program Improvement funds to participating Colleges.

Prop 39 Eligible TOP Codes

Updated 5/22/2014

*** 0201.00 – Architecture and Architectural Technology**

Planning, organization, and enclosure of space for functional and esthetic purposes, including the design of structures, testing of materials, estimating, environmental impact studies, and dealing with contracts and specifications.

*** 0934.00 – Electronics and Electric Technology**

Theory and application of electric and electronic systems and components, including circuits, electro-magnetic fields, energy sources, communications devices, radio, and television circuits, computers, and other electric and electronic components and devices.

*** 0934.40 – Electrical Systems and Power Transmission**

Installation, operation, maintenance, and repair of electrical systems and the power lines that distribute electricity. Includes assembly, installation, maintenance and repair of motors, generators, transformers, and related equipment.

*** 0935.00 - Electro-Mechanical Technology**

Engineering principles and technical skills for the manufacture of products and related industrial processes. Includes shaping and forming operations, materials handling, instrumentation and controls, and quality control. Includes Computer Aided Manufacturing and robotics. Also includes optimization theory, industrial and manufacturing planning, and related management skills.

*** 0945.00 – Industrial Systems Technology and Maintenance**

Design, construction, maintenance, and operation of mechanical, hydraulic, pneumatic, and electrical equipment and related systems, such as production machinery. Includes building and plant maintenance.

*** 0946.00 – Environmental Control Technology (HVAC)**

Assembly, installation, operation, maintenance, and repair of air conditioning, heating, and refrigeration systems.

*** 0946.10– Energy Systems Technology**

Theory and methods of energy conservation applied to heating, cooling, and related systems, including the measurement and assessment of energy consumption, diagnosis and prescription. Includes alternative energy systems.

*** 0952.00 – Construction Crafts Technology**

Lay out, fabrication, erection, installation, and repair of buildings, highways, airports, and other structures and fixtures, including framing, construction materials, estimating, blueprint reading, and use of tools.

*** 0952.10 – Carpentry**

Layout, fabrication, erection, and installation of structures using common systems of framing, construction materials, estimating, and blueprint reading.

*** 0952.20 – Electrical**

Installation, operation, maintenance and repair of electrical systems in buildings, including residential, commercial, and industrial electric power wiring and motors, controls, and electrical-distribution panels.

*** 0952.30 – Plumbing, Pipefitting, and Steamfitting**

Theories, principles, methods, technical skills and use of equipment in plumbing, pipefitting, and steamfitting.

*** 0953.00 – Drafting Technology**

Planning, preparation, and interpretation of various engineering sketches for design and drafting duties, for circuits, machines, structures, weldments, or architectural plans. Includes the application of advanced computer software and hardware (Computer Assisted Drafting and Computer Assisted Design) to the creation of graphic representations and simulations in support of engineering projects.

*** 0953.10 – Architectural Drafting**

Preparation of working drawings and electronic simulations for architectural and related construction projects.

*** 0953.20 – Civil Drafting**

Preparation of working drawings and electronic simulations in support of civil engineers, geologic engineers, and related professionals.

*** 0953.30 – Electrical, Electronic, and Electro-Mechanical Drafting**

Development of working schematics and representations in support of electrical/electronic engineers, computer engineers, electro-mechanical engineers, and related professionals.

*** 0953.40 – Mechanical Drafting**

Development of working drawings and electronic simulations in support of mechanical and industrial engineers and related professionals.

*** 0956.00 - Manufacturing and Industrial Technology**

Engineering principles and technical skills for the manufacture of products and related industrial processes. Includes shaping and forming operations, materials handling, instrumentation and controls, and quality control. Includes Computer Aided Manufacturing and robotics. Also includes optimization theory, industrial and manufacturing planning, and related management skills.

*** 0956.30 - Industrial Maintenance**

Fabrication, assembly and repair of parts and components or systems on machines, such as lathes, grinders, drill presses, milling machines, and shaping machines. Includes Computer Numerical Control and tool design.

*** 0956.40 – Sheet Metal and Structural Metal**

Theories, principles, methods, technical skills, and equipment used in sheet metal occupations and ironworking occupations.

*** 0956.50 – Welding Technology**

Welding techniques, processes, and equipment applied in accordance with diagrams, blueprints, or other specifications.

*** 0956.70 – Industrial and Occupational Safety and Health**

Safety engineering principles and practices, as well as related federal, state and local regulations concerned with workplace safety.

*** 0957.00 – Civil and Construction Management Technology**

Application of procedures and techniques related to civil and construction management, including estimating and bidding, scheduling and control, inspection, building systems, construction practices, quality control, labor and safety practices. Includes public works management.

*** 0957.20 – Construction Inspection**

Inspection of new or remodeled structures to determine their soundness and compliance to specifications, building codes and other regulations.

*** 0958.00 – Water and Wastewater Technology**

Principles, technical skills and equipment used to process, purify, store and distribute potable water, and dispose of waste water. Design, construction, operation, and maintenance of equipment for water or waste water treatment systems.

Notes: 1. Also included are:

Apprenticeship with Journeyman Certification (in energy related crafts including carpentry, electricians, plumbers, and sheet metal workers)

Pre-Apprenticeship (requires partnership with energy related Apprenticeship program(s) approved by the Division of Apprenticeship Standards)

Renewable Energy including Solar Technology

2. Only courses identified as “C” or “D” are eligible in TOP Codes with multiple occupations

Eligible Third Party Certifications

Updated April 30, 2014

- WECA ET modules
- Multi Craft Core Curriculum (MC3)
- NCCER (National Center for Construction Education and Research)
- USGBC/LEED Green Associate training/certification
- Workshops and training by the IOUs' Energy Training Centers
- BPI training http://www.bpi.org/professionals_already.aspx - or recertification (if needed)
- HERS training/certification <https://www.calcerts.com/>
- ASHRAE certification - <https://www.ashrae.org/>
- OSHA: 10, 30, 510, etc.
- NABCEP
- Journeyman certificate (upon completion of a DAS registered Apprenticeship program)
- UA STAR Certification <http://www.uastar.info/>
- Nate Certification <http://www.natex.org>
- HVAC Excellence <http://www.hvacexcellence.org/Certifications.aspx>
- RSES Certification <http://www.rses.org/testing/cms.aspx>
- TABB Certification <http://www.tabbcertified.org>
- NEBB Certification <http://www.nebb.org/index.php>
- AABC Certification <http://www.aabc.com/certifications/>

Eligible Apprenticeship Programs

Updated 5/22/2014

Registered Apprenticeships are listed at <http://www.dir.ca.gov/databases/das/aigstart.asp>

Asbestos

- Heat & Frost Insulators and Asbestos Workers
- Heat and Frost Insulator

Carpentry

- Carpenter
- Insulating Worker
- Insulation Installer
- Weatherization Installer & Technician

Electrical & Electronics

- Electrician

Heating Ventilation & Air Conditioning

- Heating, Ventilation and Air Conditioning Worker
- HVACR Service Technician

Operating Engineer

- Construction Inspector
- Operating & Maintenance Engineer
- Stationary Engineer

Plumbing & Pipefitting

- Air Conditioning and Refrigeration Mechanic
- Air Conditioning Refrigeration Mechanic
- HVACR Service Technician
- Refrigeration & Air Conditioning Fitter
- Refrigeration and Air Conditioning Mechanic
- Refrigeration Fitter
- Refrigeration Mechanic

Sheet Metal Worker

- Air Balance Testing Technician
- Air Conditioning Mechanic
- Air Conditioning Specialist
- Heating, Ventilation, and Air Conditioning Worker
- Sheet Metal Worker Energy Management Technician
- Sheet Metal Service Technician
- Test, Adjust, & Balancing Technician