

Electrical and Electronic Repairers, Powerhouse, Substation and Relay Labor Market Analysis: Imperial County

March 2018

Summary

The following list summarizes findings from the labor market analysis below for *Electrical and Electronic Repairers, Powerhouse, Substation and Relay*:

- Between 2017 and 2022, *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* are projected to increase by seven jobs or 18 percent.
- Employers in Imperial County will need to hire five workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.
- Between 2010 and 2017, there was an average of zero online job postings per year for *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* in Imperial County.
- *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* earn median hourly earnings of \$37.69, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is \$11.32 per hour.
- According to the California Community Colleges Chancellor's Office Management Information System (MIS) Data Mart, there are two Taxonomy of Programs (TOP) codes associated with this occupation: TOP 093400: Electronics and Electric Technology and 093440: Electrical Systems and Power Transmission.
- According to the TOP data, one college supplies the region with an annual average of 24 completions for this occupation: Imperial Valley College
- Comparing labor demand (annual openings) with labor supply suggests that there is an oversupply for this occupation in Imperial County, with five annual openings and 24 awards. Comparatively, there are 192 annual openings in California and 1,163 completions.
- Between January 1, 2015 and December 31, 2017, there was no employer in Imperial County hiring for this occupation.
- The typical on-the-job training for this profession is moderate-term on-the-job training. The typical entry-level education is a postsecondary non-degree award Introduction.

This report provides labor market information in Imperial County for the following occupational code in the Standard Occupational Classification (SOC)¹ system:

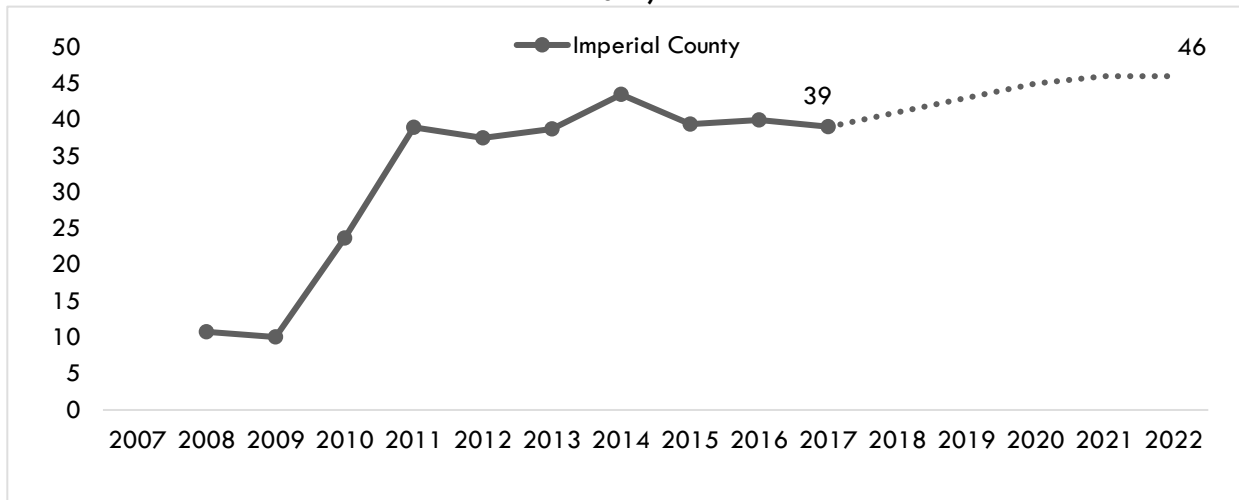
Electrical and Electronic Repairers, Powerhouse, Substation and Relay (SOC 49-2095): Inspect, test, repair or maintain electrical equipment in generating stations, substations and in-service relays Sample reported job titles include:

- Substation Electrician
- Substation Mechanic
- Substation Wireman
- Meter/Relay Technician
- Lineman
- Relay Technician
- Wireman
- Substation Technician
- Maintenance Technician
- Instrumentation and Control Technician (I&C Technician)

Projected Occupational Demand

Between 2017 and 2022, *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* are projected to increase by **seven** jobs or **18** percent (Exhibit 1). Employers in Imperial County will need to hire **five** workers annually to fill new jobs and backfill jobs due to attrition such as retirement or turnover.

Exhibit 1: Number of Jobs for Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (2007-2022)²



¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc/).

² Economic Modeling Specialists, Int'l. (EMS). Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW+ Self-Employed. 2007-2022.

Online Job Postings

Between 2010 and 2017, there was an average of **zero** online job postings per year for *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* in Imperial County (Exhibit 3).

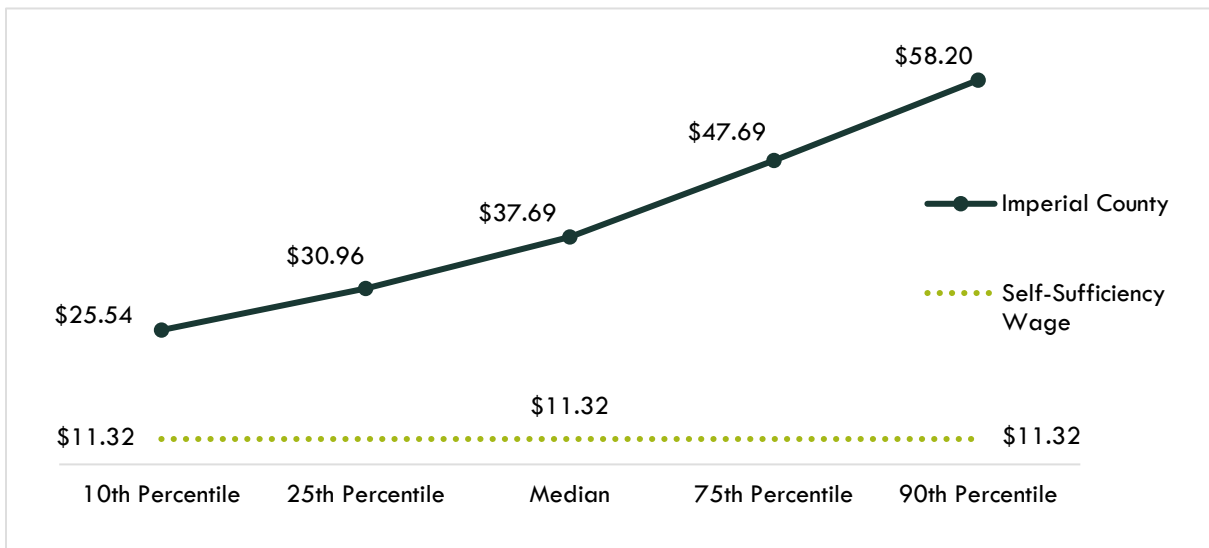
Exhibit 3: Number of Online Job Postings for *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* in Imperial County (2010-2017)³

0	0	0	0	0	0	0	0
2010	2011	2012	2013	2014	2015	2016	2017

Earnings

Electrical and Electronics Repairers, Powerhouse, Substation, and Relay earn median hourly earnings of **\$37.69**, more than the Self-Sufficiency Standard for two adults and two children (school-age) in Imperial County, which is **\$11.32** per hour (Exhibit 4).⁴

Exhibit 4: Hourly Earnings for *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* in Imperial County⁵



³ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2010-2017.

⁴ The standard for two adults and two children was chosen due to the 3.68 persons per household (2012-2016) as determined by the U.S. Census for Imperial County.

⁵ EMSI. Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of related program completers/graduates/awards in Imperial County. According to the California Community Colleges Chancellor’s Office Management Information System (MIS) Data Mart, there are **two** Taxonomy of Programs (TOP) codes associated with this occupation: TOP 093400: Electronics and Electric Technology and 093440: Electrical Systems and Power Transmission (Exhibit 5).

Exhibit 5: Related TOP Codes in Imperial County

SOC 49-2095: Electrical and Electronics Repairers, Powerhouse, Substation, and Relay

TOP 093400: Electronics and Electric Technology

TOP 093440: Electrical Systems and Power Transmission

According to the TOP data, **one** college supplies the region with an annual average of **24** completions for this occupation: **Imperial Valley College** (Exhibit 6).

Please note: An award is not equivalent to a single person in search of a job opening because a student may earn more than one award such as an associate degree in addition to a certificate.

Exhibit 6: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Year 2013-14 through PY2016-17 Average)

TOP06	TOP06 Title	3-Yr Annual Average CC Awards (PY14-15 to PY16-17)	Other Educational Institutions 3-Yr Annual Average Awards (PY13-14 to PY15-16)	3-Yr Total Average Supply (PY13-14 to PY16-17)
093400	Electronics and Electric Technology	24	0	24
	<ul style="list-style-type: none"> Imperial Valley College 	24	0	24
093440	Electrical Systems and Power Transmission	0	0	0
			Total	24

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁶ suggests that there is an **oversupply** for this occupation in Imperial County, with **five** annual openings and **24** awards. Comparatively, there are **192** annual openings in California and **1,163** completions⁷ (Exhibit 7).

Exhibit 7: Labor Demand (Annual Openings) Compared to Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
Imperial County	5	24	19
California	192	1,163	971

Please note: This is a basic analysis of supply and demand of labor for these occupations. This data should be used to discuss the potential gaps or oversupply of workers for these occupations; however, it should not be the only basis for determining whether or not a program should be developed. Additionally, the data does not include workers who are currently in the labor force who could fill these positions or workers who are not captured by publicly available data.

Student Outcomes

Based on the information available in the CTE LaunchBoard⁸, students who took courses in the related TOP codes exhibited the following outcomes (Exhibit 8).

Exhibit 8: Strong Workforce Program Metrics for TOP 093400: Electronics and Electric Technology in Imperial County (PY2015-16)

Metric	San Diego-Imperial	California
Number of course enrollments ⁹	1,189	17,521
Number of students who got a degree or certificate ¹⁰	63	786
Number of students who transferred ¹¹	24	348

⁶ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

⁷ EMSI. Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

⁸ calpassplus.org/LaunchBoard/SWP.aspx.

⁹ The number of enrollments in courses assigned to the TOP code in the selected year.

¹⁰ The number of unduplicated students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate degree, and/or California Community Colleges bachelor's degree in the selected TOP code.

¹¹ Students who took non-introductory courses or completed a California Community Colleges Chancellor's Office award in the selected TOP code in selected year who subsequently enrolled for the first time in a four-year institution the following year.

Metric	San Diego-Imperial	California
Employed in the second fiscal quarter after exit ¹²	67%	67%
Employed in the fourth fiscal quarter after exit ¹³	71%	69%
Job closely related to field of study ¹⁴	N/A	N/A
Median earnings in the second fiscal quarter after exit ¹⁵	\$9,422	\$9,028
Median change in earnings ¹⁶	93%	51%
Attained a living wage ¹⁷	62%	59%

Top Employers and Work Locations

Between January 1, 2015 and December 31, 2017, there was no employer in Imperial County hiring for this occupation (Exhibit 9).

Exhibit 9: Top Employer in Imperial County for *Electrical and Electronic Repairers, Commercial and Industrial Equipment*

Top Employer
<ul style="list-style-type: none"> N/A

Skills, Education and Certifications

Exhibit 10 indicates the educational attainment for the occupation found currently in the national labor force. The typical on-the-job training for this profession is **moderate-term on-the-job training**. The typical entry-level education is a **postsecondary non-degree award**.¹⁸

¹² Among all exiters with a valid SSN, the percentage who were employed two quarters after exiting the Community college system.

¹³ Among exiting students with a valid SSN, the percentage who were employed four quarters after exiting the California community college system.

¹⁴ Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

¹⁵ Among exiting students, the median second-quarter earnings one year after the year in which they exited California Community Colleges.

¹⁶ Among exiting students with a valid SSN, the percentage change in earnings one year before and one year after exiting California Community Colleges.

¹⁷ Among completers and skills-builders who exited, the proportion of students who attained a living wage.

¹⁸ EMSI. Imperial County (6025). 2018.01 Class of Worker. QCEW + Non-QCEW + Self-Employed. 2017-2022.

Exhibit 10: National Educational Attainment of *Electrical and Electronic Repairers, Commercial and Industrial Equipment* ¹⁹

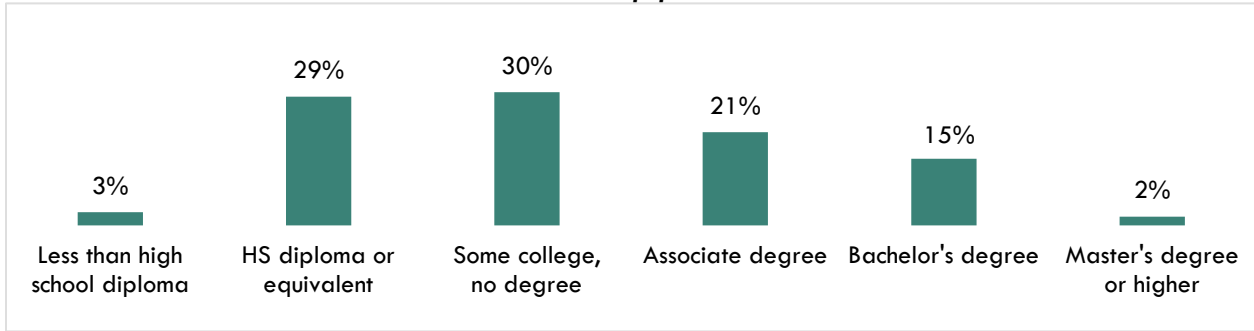


Exhibit 11 lists the top specialized and soft skills that appeared in online job postings between January 1, 2015 and December 31, 2017.

Exhibit 11: Top Skills for *Electrical and Electronics Repairers, Powerhouse, Substation, and Relay* in Imperial County²⁰

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A

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¹⁹ Bureau of Labor Statistics, Educational attainment for workers 25 years and older by detailed occupation. bls.gov/emp/ep_table_111.htm
²⁰ Labor Insight Jobs. Burning Glass Technologies. Imperial, CA. San Diego, CA. Full years 2015-2017.