MSG ACCOUNTANTS, CONSULTANTS & BUSINESS VALUATORS

ELECTRICAL CONTRACTING
AN INDUSTRY STUDY

Things you will learn from this whitepaper:

1. How are electrical contractors required to comply with industry standards?
2. How does the advancement of technology affect the electrical contracting industry?
3. How has specialization added to the value of electrical contracting services?
4. How do the organized unions affect the industry?

This whitepaper will have special interest to:

1. Attorneys consulting with electrical contractors considering mergers or acquisitions.
2. Judges presiding over business disputes & litigation cases.
3. Business mediators & arbitrators.
4. Financial & income tax advisors.
5. Those concerned with the valuation of electrical contracting.

Notice & Disclaimer

In a forensic accounting setting, the purpose of an industry analysis is to allow a comparison of the subject company to its industry. This comparison is vital to assess the strengths and weaknesses of the subject company, as well as its industry and company specific risks.

The following study contains a brief, selected analysis of the specified industry. It is based upon a review of current economic statistics, articles in the financial press, reviews found in current business periodicals and information posted on numerous internet sites. It does not purport to be all-inclusive or to contain all of the information which a prospective investor or lender may require. Projections and opinions are based upon information provided by third parties. We make no representations or assurances that this information is complete or accurate. Neither Mark S. Gottlieb, CPA, PC nor any of its officers, employees, or representatives make any representation as to the accuracy of completeness of this report or its contents, nor shall any of the foregoing have any liability resulting from the use of the information contained herein or otherwise supplied.

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Industry Overview

The U.S. electrical contracting industry is comprised of establishments primarily engaged in the installation and servicing of electrical wiring and equipment. Over 102,000 U.S. firms specialize in electrical contracting, with combined annual sales of over $96 billion. The industry is highly fragmented: a vast majority of firms claim less than $500,000 in annual revenue and fewer than 10 employees. Most work within a single market. Large firms within the industry include: EMCOR Group, Quanta Services and Integrated Electrical Services. In all, about 600 companies have annual revenue over $10 million.

Medium and smaller-scale contractors typically service residential demand and smaller industrial and commercial projects, often in a localized area. These contractors often obtain work through regional advertising and word-of-mouth reference. The electrical divisions of large construction firms have strong revenue generating capabilities, and tend to service a wider geographic area than stand-alone contractors. The electrical contracting industry is the largest of the special trade contractors sector in terms of total turnover, employment and number of companies. As with other special trade contractors, the industry is generally dependent on current economic trends.

Operations

Electrical contracting activity can range from small-scale, basic jobs to expansive, complex projects requiring specialists. Contractors may work for large, general construction firms, be retained by other subcontractors, or be retained directly by project owners. The services of electrical contractors may be divided into three main categories:

- New construction- 50%
- Modernization, additions and alterations- 27%
- Maintenance and repairs- 23%

New construction principally involves the installation of basic electrical circuitry in residential and non-residential applications. Electricians almost always work with blueprints when they install electrical systems. Blueprints indicate the locations of circuits, outlets, load centers, panel boards, and other equipment. A majority of these large-scale projects are taken on by larger firms. Major sources of work are:

- Industrial buildings (including plants, factories, airports, and warehouses
- Commercial buildings (including hotels, restaurants, and office buildings
- Residential buildings
- Non-building projects (including airports, highway, power lines and other

Modernization and maintenance projects are often performed by smaller contractors. These electricians specialize in the rewiring and upgrading of existing electrical systems. Such activities have grown steadily over the past decade, as long-term service contracts have become standard in the industry. Another recent trend has seen firms moving away from specialization in any one vein of the industry, and offering comprehensive contracting services.

Like most trade contractors, electrical contracting firms engage projects at the construction or facility site, though some specialty work may be done off-site, at firm-owned facilities. Clients may be individual homeowners, businesses, institutions, governmental agencies, etc. The type of contractor engaged, as well as the contractual nature of the engagement, depend upon the specific needs of the client.

When a new building is planned, the project owner often hires a general contractor, responsible for the entire building's construction- even from the point of design. Some general contractors have in-house electricians, while others farm this work out to electrical contractors. At times, these contractors may even engage specialty subcontractors for specific jobs. In other situations, especially with repair and maintenance jobs, electrical contractors may deal directly with the facility's owners.

As with all firms in the general contracting industry, electrical contractors must execute the necessary business functions of marketing, estimating, planning, scheduling, purchasing, bookkeeping, and employee training. Most projects are acquired via a process of competitive bidding, making the estimation of project costs especially important to contractors. If a job is bid too low, losses will inevitably occur; if a job is bid too high, it is likely a firm will lose project rights to a competitor.

The two main costs for electrical contractors are materials and labor. Other costs include: subcontracted work, rentals for machinery and facilities, fuel, and other overhead and administrative costs.

Industry Standards

Electricians must follow protocol set forth by the National Electrical Code Association (NECA). Regulations vary with respect to project setting, and refer to various types of installation procedures. The NECA and other industry associations compose their standards under guidance from the National Standards Institute (NSI). Certificates of competency are awarded across a range of specialized fields within the electrical contracting industry. To acquire these certifications, firms take part in authorized training programs.

Contractors must also comply with federal, state and local building codes when installing new systems. Some of these include:

- Permit and license requirements applicable to electrical contractors
- Work permits and inspections
- Building, mechanical and electrical codes
- Zoning ordinances
- Laws and regulations relating to consumer protection, including those governing service contracts for residential services
- Laws and regulations relating to worker safety and the protection of human health

States may vary with respect to administration of regulations, and some require that permits and licenses be held by individual workers, rather than by the contracting firms themselves. Most localities require, at minimum, that electricians performing commercial and industrial work be licensed as journeymen. Some localities provide a "residential wireman's" license for residential work only.

Continuing education has become important in the industry, as well, and classes offered through employers or unions are common. For example, low voltage voice, data, and video systems classes have become prevalent as these systems have gained in popularity.

Most cities require code inspections for commercial buildings on an annual basis. Safety standards are enforced by the Occupational Safety and Health Administration (OSHA). Approval of tools and products common to the industry must be granted via organizations administering laboratory tests, ensuring the safety of both electricians and clients.

Workforce

The electrical contracting industry employs approximately 755,000 U.S. workers. According to the U.S. Department of Labor, Bureau of Labor Statistics, median hourly earnings of electricians in May 2004 were $20.33. The lowest 10 percent earned less than $12.18, and the highest 10 percent earned more than $33.63. Median hourly earnings in the industries employing the largest numbers of electricians in May 2004 were as follows:

- Motor vehicle parts manufacturing- $30.04
- Local government- $22.24
- Nonresidential building construction- $19.99
- Building equipment contractors- $19.76
- Employment services- $15.62

While 42 percent of contracting firms employ women, only 28 percent have female employees serving in non-clerical positions. Most onsite workers—particularly journeymen electricians—are male. Firms with non-clerical female employees are more likely to be mid-sized, having 20 or more employees and revenues in excess of $1 million.

Contractors average 48.6 years in age, and have worked in the contracting industry an average of 24.6 years. Approximately 60 percent are between the ages of 35 and 54, and 83 percent fall between the ages of 35 and 64. In this regard, the industry seems to be aging, and an infusion of new blood will be needed in the near future.

Despite recent falloffs in membership, the industry is heavily unionized, with its prominent union being the International Brotherhood of Electrical Workers (IBEW). Electrical contractors in larger cities generally claim larger numbers of union employees than their counterparts in non-metropolitan areas. According to its website, the IBEW represents approximately 750,000 members across the U.S. and Canada, working in a wide variety of fields, including: utilities, construction, telecommunications, broadcasting, manufacturing, railroads and government.

Most electricians learn their trade through apprenticeship programs. Apprentices typically start at between 40 and 50 percent of the rate paid to licensed electricians. As apprentices become more skilled, they receive periodic pay increases throughout the course of their training. Apprenticeship programs combine on-the-job training with related classroom instruction, and may be sponsored by joint training committees consisting of:

- Local unions of the IBEW and local chapters of the NECA
- Company management committees of individual electrical contracting companies
- Local chapters of the Associated Builders and Contractors and the Independent Electrical Contractors Association

Because of the comprehensive nature of apprenticeship training, apprentices who complete programs often qualify to do both maintenance and construction work, increasing their marketability. Apprenticeship programs usually last 4 years, with each year including no less than 144 hours of classroom instruction and 2,000 hours of on-the-job training.

Although overtime is not uncommon, most electricians work a standard 40-hour week. Those working in maintenance tend to work nights or weekends, as they are typically engaged in the servicing of functional buildings. Some companies, operating around-the-clock, employ three full shifts of technicians. Electricians working on industrial projects may experience weeks or even months of extended overtime during certain periods.

Because the work of electricians is often strenuous, and because electricians risk injury from falls, cuts and electrical shocks, many experienced electricians eventually become supervisors, project managers, superintendents or inspectors. For those who seek to advance, it is increasingly important to be able to communicate in Spanish, as many workers at job sites have limited English skills. In order to start a company, electricians must obtain a contractors' license.

Small Firms vs. Large Firms

Key differences occur in the types of projects taken on by variously sized firms. Among contractors with one to nine employees, residential construction accounts for a preponderance of work. Larger firms tend to specialize in industrial, commercial and non-building projects. Smaller firms almost never engage in design-to-build projects, whereas large firms may be affiliated with parent contractors involved in the entire construction process.

Industry Trends

Specialization — Technological advancements have begun to facilitate new markets, providing a broad avenue for specialization. The installation of electronic communication equipment, data cabling, and fiber optic technology, among others, are burgeoning niche markets for electrical contractors. Large firms, in particular, have been quick to capitalize upon growth opportunities afforded by specialization of services.

Differentiated Services — Differentiating service on a basis other than price has been a strategy utilized by contractors, particularly those operating in specialized markets. Differentiated services has allowed some firms to obtain elevated profits, and has expedited stable, long-term growth. Quality, timeliness, and application of specialist technology are just a few options for firms looking to bid contracts through a protocol other than traditional pricing.

CAD Modeling — An increasingly common tool over the past decade, computer-aided design (CAD) is now essential to the work of many electrical contractors, as well as construction firms in

general. Through the use of CAD 3-D modeling, contractors detect design interferences and problems in the development of a project, eliminating potential trouble spots in wiring schemes for electricians.

Deregulation — Industry analysts have predicted a nationwide deregulation of the utility industry, in accordance with the Energy Policy Act of 1992. While deregulation has already begun in several states, it is unclear to what extent this will effect the status of electrical contractors. The largest impact of deregulation thus far has been felt by utility providers, and the process seems to be moving along slowly.

Industry Outlook

Electrical contractors are strongly affected by swings in the commercial market. Should the market continue to expand, contractors will find themselves increasingly in demand. According to a recent survey by the Electrical Business Confidence Index (EBCI), "conditions are favorable for growth." The recent rise in demand for healthcare facilities (especially for the elderly), as well as growing demand for residential, retail, government, and transportation construction, should see the industry expand steadily through the next decade.

Employment for electricians is expected to increase commensurate to that of all other occupations through 2014, due in part to the large numbers of electricians encroaching upon retirement age. The industry is expected to remain highly fragmented in coming years, as the trend toward consolidation has not reached contractors beyond those affiliated with, or directly operated by, large construction firms. As projects become more complex, individual electricians, as well as contracting firms, will need to work hard to keep abreast of changes within the field.

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