EASTERN CO
Form 10-K
March 15, 2017

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year ended December 31, 2016

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ________________ to _______________

Commission File Number 0-599

THE EASTERN COMPANY
(Exact name of registrant as specified in its charter)

Connecticut (State or other jurisdiction of incorporation or organization)	06-0330020 (I.R.S. Employer Identification No.)
112 Bridge Street, Naugatuck, Connecticut (Address of principal executive offices)	06770 (Zip Code)

Registrant's telephone number, including area code: (203) 729-2255

Securities registered pursuant to Section 12(b) of the Act: Common Stock No Par Value The NASDAQ Stock Market LLC
(Title of each class) (Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes [ ] No [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes [ ] No [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer [ ]	Accelerated filer [X]
Non-accelerated filer [ ] (Do not check if a smaller reporting company)	Smaller reporting company [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes [ ] No [X]

As of July 2, 2016, the last day of registrant's most recently completed second fiscal quarter, the aggregate market value of the voting stock held by non-affiliates of the registrant was $87,125,916 (based on the closing sales price of the registrant's common stock on the last trading date prior to that date). Shares of the registrant's common stock held by each officer and director and shares held in trust by the pension plans of the Company have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 13, 2017, 6,256,098 shares of the registrant's common stock, no par value per share, were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE
Portions of the annual proxy statement dated March 15, 2017 are incorporated by reference into Part III.

The Eastern Company
Form 10-K

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016

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SAFE HARBOR STATEMENT UNDER THE PRIVATE SECURITIES
LITIGATION REFORM ACT OF 1995

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements reflect the Company's current expectations regarding its products, its markets and its future financial and operating performance. These statements, however, are subject to risks and uncertainties that may cause the Company's actual results in future periods to differ materially from those expected. Such risks and uncertainties include, but are not limited to, unanticipated slowdowns in the Company's major markets, changing customer preferences, lack of success of new products, loss of customers, competition, increased raw material prices, problems associated with foreign sourcing of parts and products, worldwide conditions and foreign currency fluctuations that may affect results of operations, and other factors discussed in item 1A of this Annual Report on Form 10-K and, from time to time, in the Company's filings with the Securities and Exchange Commission. The Company is not obligated to update or revise the aforementioned statements for those new developments.

PART I

ITEM 1 BUSINESS

(a) General Development of Business

The Eastern Company (the "Company") was incorporated under the laws of the State of Connecticut in October, 1912, succeeding a co-partnership established in October, 1858.

The business of the Company is the manufacture and sale of industrial hardware, security products and metal products from six U.S. operations and seven wholly-owned foreign subsidiaries. The Company maintains thirteen physical locations.

RECENT DEVELOPMENTS

On January 13, 2016, the Board of Directors of the Company approved amendments to the Certificate of Incorporation and the By-Laws of the Company which will eliminate the classification of the Board of Directors in a phased in manner and will provide for the election of directors by a majority of the votes cast at the Annual Meeting of Shareholders. The declassification of the Board of Directors and the election of Directors by a majority of the votes cast became effective at the Annual Meeting of Shareholders held on April 27, 2016.

(b) Financial Information about Industry Segments

Financial information about industry segments is included in Note 11 to the Company's financial statements, included at Item 8 of this Annual Report on Form 10-K.

(c) Narrative Description of Business

The Company operates in three business segments: Industrial Hardware, Security Products and Metal Products.

Industrial Hardware

The Industrial Hardware segment consists of Eberhard Manufacturing, Eberhard Hardware Manufacturing Ltd., Canadian Commercial Vehicles Corporation, Composite Panel Technologies, Eastern Industrial Ltd. and Sesamee Mexicana, S.A. de C.V. The units design, manufacture and market a diverse product line of industrial and vehicular hardware throughout North America. The segment's locks, latches, hinges, handles, lightweight composite structures and related hardware can be found on tractor-trailer trucks, moving vans, off-road construction and farming equipment, school buses, military vehicles and recreational boats. They are also used on pickup trucks, sport utility vehicles and fire and rescue vehicles. In addition, the segment manufactures a wide selection of fasteners and other closure devices used to secure access doors on various types of industrial equipment such as metal cabinets, machinery housings and electronic instruments. Eastern Industrial expands the range of offerings of this segment to include plastic injection molding.

Typical products include passenger restraint locks, slam and draw latches, dead bolt latches, compression latches, cam-type vehicular locks, hinges, tool box locks, light-weight sleeper boxes and vents for Class 8 trucks and school bus door closure hardware. The products are sold directly to original equipment manufacturers and to distributors through a distribution channel consisting of in-house salesmen and outside sales representatives. Sales and customer service efforts are concentrated through in-house sales personnel where greater representation of our diverse product lines can be promoted across a variety of markets.

The Industrial Hardware segment sells its products to a diverse array of markets, such as the truck, bus and automotive industries as well as to the industrial equipment, military and marine sectors. Although service, quality and price are major criteria for servicing these markets, the continued introduction of new or improved product designs and the acquisition of synergistic product lines are vital for maintaining and increasing market share.

Security Products

The Security Products segment, made up of Greenwald Industries, Argo EMS (formerly Argo Transdata), Illinois Lock Company/CCL Security Products, World Lock Company Ltd., Dongguan Reeworld Security Products Ltd. and World Security Industries Ltd., is a leading manufacturer of security products. This segment manufactures electronic and mechanical locking devices, both keyed and keyless, for the computer, electronics, vending and gaming industries. The segment also supplies its products to the luggage, furniture, laboratory equipment and commercial laundry industries. Greenwald manufactures and markets coin acceptors and other coin security products used primarily in the commercial laundry markets, as well as hardware and accessories for the appliance industry. In addition, the segment provides a new level of security for the commercial laundry industry through the use of “smart card” technology. Argo EMS supplies printed circuit boards and other electronic assemblies to Original Equipment Manufacturers (“OEM”) in industries such as measurement systems, semiconductor equipment manufacturing, and industrial controls, medical and military markets.

Greenwald’s products include timers, drop meters, coin chutes, money boxes, meter cases, smart cards, value transfer stations, smart card readers, card management software, access control units, oven door latches, oven door switches and smoke eliminators. Illinois Lock Company/CCL Security Products sales include cabinet locks, cam locks, electric switch locks, tubular key locks and combination padlocks. Many of the products are sold under the names, SESAMEE®, PRESTOLOCK® and SEARCHALERT™. These products are sold to original equipment manufacturers, distributors, route operators, and locksmiths via in-house salesmen and outside sales representatives. Sales efforts are concentrated through national and regional sales personnel where greater representation of our diverse product lines can be promoted across a variety of markets.

The Security Products segment continuously seeks new markets where it can offer competitive pricing and provide customers with engineered solutions for their security needs.

Metal Products

The Metal Products segment, based at the Company’s Frazer & Jones facility, is the largest and most efficient producer of expansion shells for use in supporting the roofs of underground mines. This segment also manufactures specialty malleable and ductile iron castings.

Typical products include mine roof support anchors, couplers for railroad braking systems, support anchoring for construction and couplers/fittings for utility (oil, water and gas) industries. Mine roof support anchors are sold to bolt manufacturers while specialty castings are sold to original equipment manufacturers or machine houses.

General

Raw materials and outside services were readily available from domestic sources for all of the Company's segments during 2016 and are expected to be readily available in 2017 and the foreseeable future. The Company also obtains materials from Asian affiliated and nonaffiliated sources. The Company has not experienced any significant problems obtaining material from its Asian sources in 2016 and does not expect any such problems in 2017. In 2014, the Company experienced price increases for many of the raw materials used in producing its products, including: scrap iron, zinc, brass and stainless steel. In 2015 the Company experienced a price decline for many of these same materials. The Company expects raw material prices to stabilize and then continue to increase as demand for raw materials increases as the world economy grows. These raw material cost increases could negatively impact the Company's gross margin if raw material prices increase too rapidly for the Company to recover those cost increases through either price increases to our customers or cost reductions in other areas of the businesses.

Patent and trademark protection for the various product lines within the Company is limited, but believed by the Company to be sufficient to protect the Company's competitive positions. Foreign sales and license agreements are not significant.

None of the Company's business segments are seasonal.

Customers for all business segments are broad-based geographically and by markets, and sales are generally not highly concentrated by customer. One customer of the Metal Products segment, Jennmar Corporation, accounted for 10.5% of the Company's consolidated sales in 2014. No other customer exceeded 10% of total consolidated sales in 2016, 2015 or 2014.

The dollar amount of the backlog of orders received by the Company believed to be firm as of the fiscal year end December 31, 2016 is $26,993,000, as compared to $27,622,000 at January 2, 2016. The primary reasons for the decrease from 2015 to 2016 were the timing of orders received from customers.

The Company encounters competition in all of its business segments. The Company has been successful in dealing with this competition by offering high quality diversified products with the flexibility of meeting customer needs on a timely basis. This is accomplished by effectively using internal engineering resources and cost effective manufacturing capabilities, expanding product lines through product development and acquisitions, and maintaining sufficient inventory for fast turnaround of customer orders. Imports from Asia and Latin America with favorable currency exchange rates and low cost labor have created additional competitive pressures. The Company currently utilizes four wholly-owned subsidiaries in Asia to help offset offshore competition.

Research and development expenditures in 2016 were $1,526,000 and represented less than 1% of gross revenues. In 2015 and 2014 they were $1,219,000 and $1,080,000, respectively. The research costs are primarily attributable to the Greenwald Industries and Eberhard Manufacturing divisions. Greenwald performs ongoing research, in both the mechanical and electronic product lines, which is necessary in order to remain competitive and to continue to provide technologically advanced electronic systems. Eberhard develops new products for the various markets they serve based on changing customer requirements to remain competitive. Other research projects include the development of various latches, rotaries and various transportation and industrial hardware products.

The Company does not anticipate that compliance with federal, state or local environmental laws or regulations is likely to have a material effect on the Company's capital expenditures, earnings or competitive position.

The average number of employees in 2016 was 862.

(d) Financial Information about Geographic Areas

The Company includes six separate operating divisions located within the United States, two wholly-owned Canadian subsidiaries (one located in Tillsonburg, Ontario, Canada, and one in Kelowna, British Columbia, Canada), a wholly-owned Taiwanese subsidiary located in Taipei, Taiwan, a wholly-owned subsidiary in Hong Kong, two wholly-owned Chinese subsidiaries (one located in Shanghai, China, and one located in Dongguan, China) and a wholly-owned subsidiary in Lerma, Mexico.

Individually, the Canadian, Taiwanese, Hong Kong, Chinese and Mexican subsidiaries' revenue and assets are not significant. Substantially all other revenues are derived from customers located in the United States.

Financial information about foreign and domestic operations' revenues and identifiable assets is included in Note 11 to the Company's financial statements, included at Item 8 of this Annual Report on Form 10-K. Information about risks attendant to the Company's foreign operations is set forth at Item 1A of this Annual Report on Form 10-K.

e) Available Information

The Company makes available, free of charge through its Internet website at http://www.easterncompany.com, its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission. The public may read and copy any materials that the Company files with the SEC at the SEC's Public Reference Room, 100 F Street, N.E., Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. The Company's reports filed with, or furnished to, the SEC are also available on the SEC's website at www.sec.gov.

ITEM 1A RISK FACTORS

In addition to the other information contained in this Form 10-K and the exhibits hereto and the Company's other filings with the SEC, the following risk factors should be considered carefully in evaluating the Company's business. The Company's business, financial condition or results of operation could be materially adversely affected by any of these risks or additional risks not presently known to the Company, or by risks the Company currently deems immaterial which may also adversely affect its business, financial condition, or results of operations, such as: changes in the economy, including changes in inflation, tax rates interest rates and currency exchange rates; risk associated with possible disruption in the Company's operations due to terrorism and other manmade or natural disasters; future regulatory actions, legal issues or environmental matters; loss of, or changes in, executive management; and changes in accounting standards which are adverse to the Company. Also, there can be no assurance that the Company has correctly identified and appropriately assessed all factors affecting its business or that information publicly available with respect to these matters is complete and correct.

The Company's business is subject to risks associated with conducting business overseas.

International operations could be adversely affected by changes in political and economic conditions, trade protection measures, restrictions on repatriation of earnings, differing intellectual property rights, and changes in regulatory requirements that restrict the sales of products or increase costs. Changes in exchange rates between the U.S. dollar and other currencies could result in increases or decreases in earnings, and may adversely affect the value of the Company's assets outside the United States. The Company's operations are also subject to the effects of international trade agreements and regulations. Although generally these trade agreements have positive effects, they can also impose requirements that adversely affect the Company's business, such as setting quotas on product that may be imported from a particular country into the Company's key markets in North America.

The Company's ability to import products in a timely and cost-effective manner may also be affected by conditions at ports or issues that otherwise affect transportation and warehousing providers, such as port and shipping capacity, labor disputes, severe weather or increased homeland security requirements in the United States or other countries. These issues could delay importation of products or require the Company to locate alternative ports or warehousing providers to avoid disruption to customers. These alternatives may not be available on short notice or could result in higher transit costs, which could have an adverse impact on the Company's business, financial conditions or results of operations.

See also "ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK" of this Form 10-K.

In addition, the Company's growth strategy involves expanding sales of its products into foreign markets. There is no guarantee that the Company's products will be accepted by foreign customers or how long it may take to develop sales of the Company's products in these foreign markets.

Increases in the price or reduced availability of raw materials.

Raw materials needed to manufacture products are obtained from numerous suppliers. Under normal market conditions, these raw materials are readily available on the open market from a variety of producers. However, from time to time the prices and availability of these raw materials fluctuate, which could impair the Company's ability to procure the required raw materials for its operations or increase the cost of manufacturing its products. If the price of raw materials increases, the Company may be unable to pass these increases on to its customers and could experience reduction to its profit margins. Also, any decrease in the availability of raw materials could impair the Company's ability to meet production requirements in a timely manner.

Increased competition in the markets the Company services could impact revenues and earnings.

Any change in competition may result in lost market share or reduced prices, which could result in reduced profit margins. This may impair the ability to grow or even maintain current levels of revenues and earnings. While the Company has an extensive customer base, loss of certain customers could adversely affect the Company's business, financial condition or results of operations until such business is replaced, and no assurances can be made that the Company would be able to regain or replace any lost customers.

The Company is required to evaluate its internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002.

The Company is an "accelerated filer" as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, and is required to comply with Section 404 of the Sarbanes-Oxley Act of 2002. Section 404 requires the Company to include in its report management's assessment of the effectiveness of the Company's internal control over financial reporting as of the end of the fiscal period for which the Company is filing its Form 10-K. This report must also include disclosure of any material weaknesses in internal control over financial reporting that the Company has identified. Additionally, the Company's independent registered public accounting firm is required to issue a report on the Company's internal control over financial reporting and their evaluation of the operating effectiveness of the Company's internal control over financial reporting. The Company's assessment requires it to make subjective judgments, and the independent registered public accounting firm may not agree with the Company's assessment. If the Company or its independent registered public accounting firm were unable to complete the assessments within the period prescribed by Section 404 and thus be unable to conclude that the internal control over financial reporting is effective, investors could lose confidence in the Company's reported financial information, which could have an adverse effect on the market price of the Company's common stock or impact the Company's borrowing ability. In addition, changes in operating conditions and changes in compliance with policies and procedures currently in place may result in inadequate internal control over financial reporting in the future.

The inability to identify or complete acquisitions could limit future growth.

As part of its growth strategy, the Company continues to pursue acquisitions of complementary products or businesses. The ability to grow through acquisitions depends upon the Company's ability to identify, negotiate, complete and integrate suitable acquisitions. The Company makes certain assumptions based on the information provided by potential acquisition candidates and also conducts due diligence to ensure the information provided is accurate and based on reasonable assumptions. However, the Company may be unable to realize the anticipated benefits from an acquisition or predict accurately how an acquisition will ultimately affect the business, financial condition or results of operations.

Demand for new products and the inability to develop and introduce new competitive products at favorable profit margins could adversely affect the Company's performance and prospects for future growth, and the Company would not be positioned to maintain current levels of revenues and earnings.

The uncertainties associated with developing and introducing new products, such as the market demands and the costs of development and production, may impede the successful development and introduction of new products. Acceptance of the new products may not meet sales expectations due to several factors, such as the Company's failure to accurately predict market demand or its inability to resolve technical issues in a timely and cost-effective manner. Additionally, the inability to develop new products on a timely basis could result in the loss of business to competitors.

The Company could be subject to litigation which could have a material impact on the Company's business, financial condition or results of operations.

From time to time, the Company's operations are parties to or targets of lawsuits, claims, investigations and proceedings, including product liability, personal injury, patent and intellectual property, commercial, contract, environmental and employment matters, which are defended and settled in the ordinary course of business. While the Company is unable to predict the outcome of any of these matters, it does not believe, based upon currently available information, that the resolution of any pending matter will have a material adverse effect on its business, financial condition or results of operations. See “ITEM 3 – LEGAL PROCEEDINGS” in this Form 10-K for a discussion of current litigation.

The Company could be subject to additional tax liabilities.

The Company is subject to income tax laws in the United States, its states and municipalities and those of other foreign jurisdictions in which the Company has business operations. These laws are complex and subject to interpretations by the taxpayer and the relevant governmental taxing authorities. Significant judgment and interpretation is required in determining the Company's worldwide provision for income taxes. In the ordinary course of business, transactions arise where the ultimate tax determination is uncertain. Although the Company believes its tax estimates are reasonable, the final outcome of tax audits and any related litigation could be materially different from that which is reflected in historical income tax provisions and accruals. Based on the status of a given tax audit or related litigation, a material effect on the Company's income tax provision or net income may result during the period or periods from the initial recognition of a particular matter in the Company's reported financial results to the final closure of that tax audit or settlement of related litigation when the ultimate tax and related cash flow is known with certainty.

The Company's goodwill or indefinite-lived intangible assets may become impaired, which could require a significant charge to earnings to be recognized.

Under accounting principles generally accepted in the United States, goodwill and indefinite-lived intangible assets are not amortized but are reviewed for impairment at least annually. Future operating results used in the assumptions, such as sales or profit forecasts, may not materialize, and the Company could be required to record a significant charge to earnings in the financial statements during the period in which any impairment is determined, resulting in an unfavorable impact on our results of operations. Numerous assumptions are used in the evaluation of impairment, and there is no guarantee that the Company's independent registered public accounting firm would reach the same conclusion as the Company or an independent valuation firm, which could result in a disagreement between management and the independent registered public accounting firm.

The Company may need additional capital in the future, and it may not be available on acceptable terms, if at all.

From time-to-time, the Company has historically relied on outside financing to fund expanded operations, capital expenditure programs and acquisitions. The Company may require additional capital in the future to fund operations or strategic opportunities. The Company cannot be assured that additional financing will be available on favorable terms, or at all. In addition, the terms of available financing may place limits on the Company's financial and operating flexibility. If the Company is unable to obtain sufficient capital in the future, the Company may not be able to expand or acquire complementary businesses and may not be able to continue to develop new products or otherwise respond to changing business conditions or competitive pressures.

The Company's stock price may become highly volatile due to low float, which is the number of shares of the Company's common stock that are outstanding and available for trading by the public.

The Company's stock price may change dramatically when buyers seeking to purchase shares of the Company's common stock exceed the shares available on the market, or when there are no buyers to purchase shares of the Company's common stock when shareholders are trying to sell their shares.

The Company may not be able to reach acceptable terms for contracts negotiated with its labor unions and be subject to work stoppages or disruption of production.

During 2017, union contracts covering approximately 14% of the total workforce of the Company will expire. The Company has been successful in negotiating new contracts over the years, but cannot guarantee that will continue.

Failure to negotiate new union contracts could result in disruption of production, inability to deliver product or a number of unforeseen circumstances, any of which could have an unfavorable material impact on the Company's results of operations or financial statements.

Deterioration in the creditworthiness of several major customers could have a material impact on the Company's business, financial condition or results of operations.

Included as a significant asset on the Company's balance sheet are accounts receivable from our customers. If several large customers become insolvent or otherwise unable to pay for products, or become unwilling or unable to make payments in a timely manner, it could have an unfavorable material impact on the Company's results of operations or financial statements.

Although the Company is not dependent on any one customer, deterioration in several large customers at the same time could have an unfavorable material impact on the Company's results of operations or financial statements. No customers exceeded 10% of total accounts receivable for 2016, 2015 or 2014.

The Company's operating results may fluctuate, which makes the results of operations difficult to predict and could cause the results to fall short of expectations.

The Company's operating results may fluctuate as a result of a number of factors, many outside of our control. As a result, comparing the Company's operating results on a period-to-period basis may not be meaningful, and past results should not be relied upon as an indication of future performance. Quarterly, year to date and annual costs and expenses as a percentage of revenue may differ significantly from historical or projected rates. Future operating results may fall below expectations. These types of events could cause the price of the Company's stock to fall.

New or existing U.S. or foreign laws could subject the Company to claims or otherwise impact the Company's business, financial condition or results of operations.

The Company is subject to a variety of laws in both the U.S. and foreign countries that are costly to comply with, can result in negative publicity and diversion of management time and effort, and can subject the Company to claims or other remedies.

ITEM 1B UNRESOLVED STAFF COMMENTS

None.

ITEM 2 PROPERTIES

The corporate office of the Company is located in Naugatuck, Connecticut in a two-story 8,000 square foot administrative building on 3.2 acres of land.

All of the Company's properties are owned or leased and are adequate to satisfy current requirements. All of the Company's properties have the necessary flexibility to cover any long-term expansion requirements.

The Industrial Hardware Group includes the following:

The Eberhard Manufacturing Division in Strongsville, Ohio owns 9.6 acres of land and a building containing 157,580 square feet, located in an industrial park. The building is steel frame, one-story, having curtain walls of brick, glass and insulated steel panel. The building has two high bays, one of which houses two units of automated warehousing.

The Eberhard Hardware Manufacturing, Ltd., a wholly-owned Canadian subsidiary in Tillsonburg, Ontario, owns 4.4 acres of land and a building containing 31,000 square feet in an industrial park. The building is steel frame, one-story, having curtain walls of brick, glass and insulated steel panel. It is particularly suited for light fabrication, assembly and warehousing and is adequate for long-term expansion requirements.

The Canadian Commercial Vehicles Corporation (“CCV”), a wholly-owned subsidiary in Kelowna, British Columbia, leases 46,385 square feet of building space located in an industrial park. The building is made from brick and concrete, contains approximately 5,400 square feet of office space on two levels and houses a modern paint booth for finishing our products. The building is protected by a F1 rated fire suppression system and alarmed for fire and security. The current lease expires December 31, 2018 and is renewable.

The Composite Panel Technologies Division ("CPT") in Salisbury, North Carolina, leases 70,000 square feet of building space located in an industrial park. The building is made from brick and concrete, contains approximately 6,600 square feet of office space on one level and houses a modern paint booth for finishing our products. The building is protected by a water sprinkler fire suppression system and alarmed for fire and security. The current lease expires October 31, 2019 and is renewable.

The Eastern Industrial Ltd., a wholly-owned subsidiary in Shanghai, China, leases brick and concrete buildings containing approximately 47,500 square feet, located in both industrial and commercial areas. A six year lease was signed in 2016, which expires on March 31, 2022 and is renewable.

The Sesamee Mexicana subsidiary leases 42,588 square feet in a facility located in an industrial park in Lerma, Mexico. The current lease expires November 30, 2020 and is renewable. The building is steel framed with concrete block and glass curtain walls.

The Security Products Group includes the following:

The Greenwald Industries Division in Chester, Connecticut owns 26 acres of land and a building containing 120,000 square feet. The building is steel frame, one story, having brick over concrete blocks.

The Illinois Lock Company/CCL Security Products Division owns 2.5 acres of land and a building containing 44,000 square feet in Wheeling, Illinois. The building is brick and located in an industrial park.

The Argo EMS Division leases approximately 17,000 square feet located in an industrial park in Clinton, CT. The building is a two-story steel framed structure and is situated on 2.9 acres of land. The current lease expires March 31, 2019.

The World Lock Co. Ltd. subsidiary leases 5,285 square feet located in Taipei, Taiwan. The building is made from brick and concrete and is protected by a fire alarm and sprinklers.

The Dongguan Reeworld Security Products Company Ltd. subsidiary was established in July 2013 to manufacture locks and hardware and leases 118,000 square feet of concrete buildings in an industrial park located in Dongguan, China. A five-year lease was signed in 2013, which expires June 30, 2018 and is renewable.

The Metal Products Group consists of:

The Frazer and Jones Division in Solvay, New York owns 17.9 acres of land and buildings containing 205,000 square feet constructed for foundry use. These facilities are well adapted to handle the division's current and future casting requirements.

All owned properties are free and clear of any encumbrances.

ITEM 3 LEGAL PROCEEDINGS

During the fourth quarter of 2010, the Company was contacted by the State of Illinois regarding potential ground contamination at our plant in Wheeling, Illinois. The Company signed up with a voluntary remediation program in Illinois and has engaged an environmental clean-up company to perform testing and develop a remediation plan. Since 2010, the environmental company has completed a number of tests and a final remediation system design is expected to be approved in Fiscal 2017. In Fiscal 2016, the Company had expenses of $10,738 related to this issue. Final cost to remediate have not been determined at this time.

There are no other legal proceedings, other than ordinary routine litigation incidental to the Company's business, to which either the Company or any of its subsidiaries is a party or to which any of their property is the subject.

ITEM 4 MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5 MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The Company's common stock is traded on the NASDAQ (ticker symbol EML). The approximate number of record holders of the Company common stock on December 31, 2016 was 369.

The following table sets forth the high and low sales price of the Company's common stock, and the per share annual dividend declared on the Company's common stock, for each of the past two years.

	2016				2015		
	Market Price				Market Price		
Quarter	High	Low	Dividend	Quarter	High	Low	Dividend
First	$19.04	$15.01	$.11	First	$20.67	$16.75	$.11
Second	17.21	15.74	.11	Second	20.66	18.10	.11
Third	20.12	16.39	.11	Third	18.74	15.75	.12 #
Fourth	21.50	18.90	.11	Fourth	19.27	15.82	.11

- Includes $0.01 per share redemption for the termination of the 2008 Shareholders Rights Agreement

The Company expects to continue its policy of paying regular cash dividends, although there is no assurance as to future dividends because they are dependent on future earnings, capital requirements, and financial conditions. The payment of dividends is subject to the restrictions of the Company's loan agreement if such payment would result in an event of default. See Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations, and Note 5 to the Company's financial statements included at Item 8 of this Annual Report on Form 10-K.

The following table sets forth information regarding securities authorized for issuance under the Company's equity compensation plans as of December 31, 2016, consisting of the Company's 2010 plan.

Equity Compensation Plan Information

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	-	-	500,0001
Equity compensation plans not approved by security holders	-	-	-

Total	-	-	500,000

1 Includes shares available for future issuance under the 2010 plan.

Each director who is not an employee of the Company ("Outside Director") is paid a director's fee for his services at the annual rate of $30,000. All annual fees paid to non-employee members of the Board of Directors of the Company are paid in common stock of the Company or cash, in accordance with the Directors Fee Program adopted by the shareholders on March 26, 1997 and amended on January 5, 2004. The directors make an annual election, within a reasonable time before their first quarterly payment, to receive their fees in the form of cash, stock or a combination thereof. The election remains in force for one year.

During fiscal years 2016, 2015 or 2014, there were no sales by the Company of securities of the registrant sold which were not registered under the Securities Act.

The Company does not have any share repurchase plans or programs.

Stock Performance Graph

The following graph sets forth the Company's cumulative total shareholder return based upon an initial $100 investment made on December 31, 2011 (i.e., stock appreciation plus dividends during the past five fiscal years) compared to the Russell 2000 Index and the S&P Industrial Machinery Index.

The Company manufactures and markets a broad range of locks, latches, fasteners and other security hardware that meets the diverse security and safety needs of industrial and commercial customers. Consequently, while the S&P Industrial Machinery Index being used for comparison is the standard index most closely related to the Company, it does not completely represent the Company's products or market applications. The Russell 2000 is a small cap market index of the smallest 2,000 stocks in the Russell 3000 Index.

	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16
The Eastern Company	$100	$82	$84	$93	$105	$120
Russell 2000	$100	$116	$162	$169	$162	$196
S&P Industrial Machinery	$100	$127	$186	$195	$188	$238

ITEM 6 SELECTED FINANCIAL DATA

	2016	2015	2014	2013	2012
INCOME STATEMENT ITEMS (in thousands)					
Net sales	$ 137,608	$ 144,568	$ 140,825	$ 142,458	$ 157,509
Cost of products sold	103,315	112,187	108,339	112,311	124,157
Depreciation and amortization	3,814	3,921	3,486	3,825	3,440
Interest expense	122	185	255	323	369
Income before income taxes	11,223	8,021	11,529	10,114	13,225
Income taxes	3,438	2,294	3,867	3,212	4,599
Net income	7,785	5,727	7,661	6,902	8,626
Dividends #	2,751	2,811	2,987	2,613	3,109
BALANCE SHEET ITEMS (in thousands)					
Inventories	$ 34,030	$ 36,842	$ 34,402	$ 30,658	$ 29,385
Working capital	64,831	60,105	57,845	57,379	56,920
Property, plant and equipment, net	26,166	26,801	28,051	27,392	25,661
Total assets	124,198	121,739	121,271	113,858	115,854
Shareholders' equity	82,468	79,405	74,975	81,505	71,582
Capital expenditures	2,863	2,538	3,633	5,524	4,217
Long-term obligations, less current portion	893	1,786	3,214	4,286	6,071
PER SHARE DATA					
Net income per share					
Basic	$ 1.25	$ .92	$ 1.23	$ 1.11	$ 1.39
Diluted	1.25	.92	1.23	1.11	1.38
Dividends #	.44	.45	.48	.42	.50
Shareholders' equity (Basic)	13.19	12.71	12.04	13.10	11.51
Average shares outstanding: Basic	6,251,535	6,245,057	6,225,068	6,220,928	6,216,931
Diluted	6,251,535	6,245,057	6,237,914	6,237,758	6,233,375

- 2015 dividends include a $0.01 per share redemption for the termination of the 2008 Shareholder Rights Agreement. 2014 dividends include a one-time extra payment of $0.04 per share distributed on 9/15/2014. 2012 dividends include a one-time extra payment of $0.10 per share distributed on 12/14/2012.

ITEM 7 MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Summary

Net sales for 2016 decreased 5% to $137.6 million from $144.6 million in 2015. Net sales in the Industrial Hardware segment decreased approximately 1% in 2016. Sales of existing product decreased 8% in 2016 as the result of a decrease in our lightweight composite panels material for the Class 8 truck market. This decrease was offset by an 8%

increase in the new product sales of lightweight composite panels for electronic smartboards. Net sales in the Security Products segment increased approximately 1% in 2016, primarily as a result of volume in the smart card and flash cash products for the laundry industry and new product sales in the storage, locksmith and industrial distribution and electronic locking enclosures industries. The Metal Products segment net sales decreased approximately 28% in 2016 compared to the prior year period, reflecting lower demand for existing products in the U.S. coal mining market and industrial castings. Demand for coal weakened as lower energy prices for oil and natural gas as well as excess coal inventories reduce demand for our mining products. The Company believes that this market is likely to rise slightly in 2017. The Company reduced cost in 2016 as the result of lowering demand for our mining products. The Metal Products segment is developing new products in the utility, rail and construction markets to offset the softening in mining products. Net income for 2016 increased 39% to $7.8 million, or $1.25 per diluted share, from $5.7 million, or $0.92 per diluted share in 2015. A strong U.S. dollar benefited margins along with cost reduction including the freezing of the salaried pension plan benefited earnings in 2016 versus 2015. In addition, 2015 included expenses associated with a proxy contest costing ($0.21) per diluted share.

Fourth Quarter 2016 Compared to Fourth Quarter 2015

The following table shows, for the fourth quarter of 2016 and 2015, selected line items from the consolidated statements of income as a percentage of net sales, by segment.

	2016 Fourth Quarter			
	Industrial Hardware	Security Products	Metal Products	Total
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	67.3%	69.4%	76.0%	69.5%
Gross margin	32.7%	30.6%	24.0%	30.5%
Selling and administrative expense	20.2%	22.1%	9.8%	19.4%
Operating profit	12.5%	8.5%	14.2%	11.1%

	2015 Fourth Quarter			
	Industrial Hardware	Security Products	Metal Products	Total
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	75.1%	71.5%	90.5%	76.5%
Gross margin	24.9%	28.5%	9.5%	23.5%
Selling and administrative expense	16.9%	20.0%	9.1%	16.7%
Operating profit	8.0%	8.5%	0.4%	6.8%

The following table shows the amount of change from the fourth quarter of 2015 to the fourth quarter of 2016 in sales, cost of products sold, gross margin, selling and administrative expenses and operating profit, by segment (dollars in thousands).

	Industrial Hardware	Security Products	Metal Products	Total
Net sales	$ 265	$ 397	$ (931)	$ (269)
Volume	-10.5%	-0.2%	-16.3%	-7.6%
Prices	-0.6%	-0.7%	0.0%	-0.5%
New Products	12.8%	3.9%	1.2%	7.3%
	1.8%	3.0%	-15.1%	-0.8%
Cost of products sold	$ (988)	$ 6	$ (1,605)	$ (2,587)
	-8.7%	.1%	-28.7%	-9.8%
Gross margin	$ 1,253	$ 391	$ 674	$ 2,318
	33.3%	10.4%	115.0%	28.6%
Selling and administrative expenses	$ 541	$ 373	$ (51)	$ 863
	21.1%	14.2%	-9.0%	15.0%
Operating profit	$ 712	$ 18	$ 725	$ 1,455

59.3%	1.6%	3,117%	61.9%

Net sales in the fourth quarter of 2016 decreased less than 1% to $34.1 million from $34.4 million a year earlier. Sales increased in the Industrial Hardware segment by 2% as compared to the fourth quarter sales on 2015. Sales increased 13% for new product sales of lightweight composite panels for electronic smartboards, which was offset by decreases in sales of our lightweight composite panels material for the Class 8 truck market by 11%. Security Products segment sales in the fourth quarter increased by 3% compared to the fourth quarter of 2015. Contributing to this increase was a 49% increase in sales from the fourth quarter of 2016 in our electronic circuit board assembly and lock products sold in both domestic and international markets. The Metal Products segment sales declined 15% from sales in the fourth quarter of 2015 as a result mainly from a decline in industrial casting sales

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and, to a lesser extent, products sold to into the U.S. coal mining industry. U.S. coal production is expected to rise slightly in 2017. There has already been an increase in coal mining sales for the tail end of 2016 and into 2017. The Company, however, continues to develop new customers in the industrial casting business and is close to producing several new products for the gas, water and energy industry.

Cost of products sold in the fourth quarter decreased $2.6 million or 10% from 2015 to 2016. The most significant factors resulting in changes in cost of products sold in the fourth quarter of 2016 compared to 2015 fourth quarter included:

§ a decrease of $1.4 million or 19% in costs for payroll and payroll related charges;
§ a decrease of $0.7 million or 61% in supplies;
§ a decrease of $0.2 million or 41% in maintenance and repair costs;
§ a decrease of $0.2 million or 26% in shipping expenses;
§ a decrease of $0.2 million or 100% in outside finishing costs;
§ a decrease of $0.2 million or 26% in other shipping expenses;
§ a decrease of $0.1 million or 9% in depreciation expense;
§ a decrease of $0.1 million or 19% in utility expenses;
§ and an increase of $0.5 million or 3% in raw material costs;

Gross margin as a percentage of net sales for the fourth quarter of 2016 was 31% compared to 24% in the fourth quarter of 2015. The increase is primarily the result of the changes in cost of products sold enumerated above, the mix of products produced, and higher production capacity being consumed in our Metals Products segment.

Selling and administrative expenses for the fourth quarter of 2016 increased $0.9 million or 15% compared to the prior year quarter. The most significant factor resulting in changes in selling and administrative expenses in the fourth quarter of 2016 compared to 2015 fourth quarter was:

§ an increase of $0.8 million or 20% in costs for payroll and payroll related charges;
§ an increase of $0.2 million or 32% in other administrative charges;
§ a decrease of $0.1 million or 451% in bad debt charges;
§ and a decrease of $0.1 million or 2% in advertising, commissions and royalties.

Net income for the fourth quarter of 2016 increased 53% to $2.6 million (or $.42 per diluted share) from $1.7 million (or $.28 per diluted share) a year earlier.

Authoritative Accounting Guidance

In April 2014, the FASB issued ASU No. 2014-08, Presentation of Financial Statements and Property, Plant and Equipment. ASU No. 2014-08 provides authoritative guidance which changes the criteria for determining which disposals can be presented as discontinued operations and modifies the related disclosure requirements. To qualify as a discontinued operation the standard requires a disposal to represent a strategic shift that has, or will have, a major effect on an entity's operations and financial results. The standard also expands the disclosures for discontinued operations and requires new disclosures related to individually material dispositions that do not qualify as discontinued operations. The guidance is effective for fiscal years beginning after December 15, 2014, with early adoption permitted. The Company adopted this guidance with its fiscal year effective January 4, 2015 and did not impact the consolidated financial statements of the Company.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers. ASU No. 2014-09 provides authoritative guidance which impacts virtually all aspects of an entity's revenue recognition. The core principle of the new standard is that revenue should be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard is effective for annual reporting periods beginning after December 15, 2016.

In August 2015, the FASB issued ASU No. 2015-14, Revenue from Contracts with Customers - Deferral of the Effective Date. ASU No. 2015-14 defers the adoption date of ASU 2014-09, Revenue from Contracts with Customers in which both the FASB and IASB in a joint project will clarify the principles for recognizing revenue and to develop a common revenue standard. The guidance is to be applied using a retrospective approach at the beginning of the earliest comparative period in the financial statements and is effective for years beginning after December 15, 2017. Early adoption is permitted. The Company is still in the process of determining the effect that the adoption of ASU 2015-14 will have on the accompanying financial statements.

In July 2015, the FASB issued ASU 2015-11, Inventory: Simplifying the Measurement of Inventory. ASU No. 2015-11 provides authoritative guidance which requires a company to change its valuation method of inventory from the lower of cost or market (market being replacement cost, net realizable value or net realizable value less an approximate profit margin) to the lower of cost or net realizable value. The amendment is effective for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. The amendment should be applied prospectively with earlier application permitted as of the beginning of an interim or annual reporting period. The adoption of this amendment is not expected to have a material impact on the consolidated financial statements of the Company.

In September 2015, the FASB issued ASU No. 2015-16, Business Combinations. ASU 2015-16 provides authoritative guidance which will simplify the accounting for adjustments made to provisional amounts recognized in a business combination. U.S. GAAP currently requires that during the measurement period, the acquirer retrospectively adjust the provisional amounts recognized at the acquisition date with a corresponding adjustment to goodwill. The amendments require that the acquirer recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. The amendments were effective for Fiscal 2017, including interim periods. The amendments should be applied prospectively to adjustments to provisional amounts that occur after the effective date with earlier application permitted for financial statements that have not yet been issued. The adoption of this amendment did not have a material impact on the consolidated financial statements of the Company.

In November 2015, the FASB issued accounting standards update 2015-07 which simplifies the balance sheet classification of deferred taxes. This standard requires that all deferred tax assets and liabilities be classified as non-current in the classified balance sheet, rather than separating such deferred taxes into current and non-current amounts, as is required under current guidance. The standard is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period with early application permitted. The Company has not early adopted ASU 2015-17. This guidance will be effective for the Company in the first quarter of 2017

In February 2016, the FASB issued ASU No. 2016-02, Leases. ASU 2016-02 requires lessees to present right-of-use assets and lease liabilities on the balance sheet for all leases with terms longer than 12 months. The guidance is to be applied using a modified retrospective approach at the beginning of the earliest comparative period in the financial statements and is effective for years beginning after December 15, 2019. Early adoption is permitted. The Company is still in the process of determining the effect that the adoption of ASU 2016-02 will have on the accompanying financial statements.

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows - Classification of certain types of cash receipts and cash payments. ASU 2016-15 provides guidance regarding eight specific cash flow issues. The guidance is to be applied using a retrospective approach at the beginning of the earliest comparative period in the financial statements and is effective for years beginning after December 15, 2017. Early adoption is permitted. The Company is still in the process of determining the effect that the adoption of ASU 2016-15 will have on the accompanying financial statements.

In March 2016, the Financial Accounting Standards Board ("FASB") issued accounting standards update 2016-09 which simplifies employee share-based payment accounting. This standard will simplify the income tax consequences, accounting for forfeitures and classification on the statement of cash flows. This standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2016, with early adoption permitted. The Company did not early adopt ASU 2016-09. This guidance will be effective for the Company in the first quarter of 2017.

In January 2017, the FASB issued ASU No. 2017-01, Business Combinations – Clarifying the Definition of a business. ASU 201-01 provides guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions or dispositions of assets or businesses. The amendment is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The amendment should be applied prospectively with earlier application permitted as of the beginning of an interim or annual reporting period. The Company is still in the process of determining the effect that the adoption of ASU 2017-01 will have on the accompanying financial statements.

In January 2017, the FASB issued ASU No. 2017-04, Intangibles – Goodwill and Other: Simplifying the test for Goodwill Impairment. ASU 201-04 provides guidance to simplify the subsequent measure of goodwill by eliminating Step 2 from the goodwill impairment test. The amendment is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The amendment should be applied prospectively with earlier application permitted as of the beginning of an interim or annual reporting period after January 1, 2017. The Company is still in the process of determining the effect that the adoption of ASU 2017-04 will have on the accompanying financial statements.

In February 2017, the FASB issued ASU No. 2017-06, Plan Accounting: Defined Benefit Pension Plans (Topic 960); Defined Contribution Pension Plans (Topic 962); Health and Welfare Benefit Plans (Topic 965): Employee Benefit Plan Master Trust Reporting. ASU 201-06 provides guidance for reporting by an employee benefit plan for its interest in a master trust. The amendment is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The amendment should be applied retrospectively with earlier application permitted as of the beginning of an interim or annual reporting period after December 15, 2018. The Company is still in the process of determining the effect that the adoption of ASU 2017-06 will have on the accompanying financial statements.

The Company has implemented all new accounting pronouncements that are in effect and that could impact its consolidated financial statements and does not believe that there are any other new accounting pronouncements that have been issued, but are not yet effective, that might have a material impact on the consolidated financial statements of the Company.

Critical Accounting Policies and Estimates

The preparation of the financial statements in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") requires management to make judgments, estimates and assumptions regarding uncertainties that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of revenues and expenses. Areas of uncertainty that require judgments, estimates and assumptions include items such as the accounting for derivatives; environmental matters; the testing of goodwill and other intangible assets for impairment; proceeds on assets to be sold; pensions and other postretirement benefits; and tax matters. Management uses historical experience and all available information to make its estimates and assumptions, but actual results will inevitably differ from the estimates and assumptions that are used to prepare the Company's financial statements at any given time. Despite these inherent limitations, management believes that Management's Discussion and Analysis of Financial Condition and Results of Operations and the financial statements and related footnotes provide a meaningful and fair presentation of the Company.

Management believes that the application of these estimates and assumptions on a consistent basis enables the Company to provide the users of the financial statements with useful and reliable information about the Company's operating results and financial condition.

Allowance for Doubtful Accounts

The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. The Company reviews the collectability of its receivables on an ongoing basis taking into account a combination of factors. The Company reviews potential problems, such as past due accounts, a bankruptcy filing or
deterioration in the customer's financial condition, to ensure the Company is adequately accrued for potential loss. Accounts are considered past due based on when payment was originally due. If a customer's situation changes, such as a bankruptcy or creditworthiness, or there is a change in the current economic climate, the Company may modify its estimate of the allowance for doubtful accounts. The Company will write off accounts receivable after reasonable collection efforts have been made and the accounts are deemed uncollectible.

Inventory Reserve

Inventories are valued at the lower of cost or market. Cost is determined by the last-in, first-out ("LIFO") method at the Company's U.S. facilities. Accordingly, a LIFO valuation reserve is calculated using the dollar value link chain method.

We review the net realizable value of inventory in detail on an ongoing basis, giving consideration to deterioration, obsolescence and other factors. Based on these assessments, we provide for an inventory reserve in the period in which an impairment is identified. The reserve fluctuates with market conditions, design cycles and other economic factors.

Goodwill and Other Intangible Assets

Intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited. Goodwill and other intangible assets with indefinite useful lives are not amortized. The Company performed its most recent qualitative assessment as of the end of fiscal 2016 and determined it is more likely than not that no impairment of goodwill existed at the end of 2016. The Company will perform annual qualitative assessments in subsequent years as of the end of each fiscal year. Additionally, the Company will perform interim analysis whenever conditions warrant.

Pension and Other Postretirement Benefits

The amounts recognized in the consolidated financial statements related to pension and other postretirement benefits are determined from actuarial valuations. Inherent in these valuations are assumptions about such factors as expected return on plan assets, discount rates at which liabilities could be settled, rate of increase in future compensation levels, mortality rates, and trends in health insurance costs. These assumptions are reviewed annually and updated as required. In accordance with U.S. GAAP, actual results that differ from the assumptions are accumulated and amortized over future periods and, therefore, affect the expense recognized and obligations recorded in future periods.

The discount rate used is based on a single equivalent discount rate derived with the assistance of our actuaries by matching expected future benefit payments in each year to the corresponding spot rates from the Citigroup Pension Liability Yield Curve, comprised of high quality (rated AA or better) corporate bonds. Effective January 1, 2017, the Company elected to refine its approach for calculating its Service and Interest Costs in future years by applying the specific spot rates along the selected yield curve to the relevant projected cash flows. The Company believes this method more precisely measures its obligations.

The expected long-term rate of return on assets is also developed with input from the Company's actuarial firms. We consider the Company's historical experience with pension fund asset performance, the current and expected allocation of our plan assets, and expected long-term rates of return. The long-term rate-of-return assumption used for determining net periodic pension expense for 2016 and 2015 was 8.0%. The Company reviews the long-term rate of return each year. Effective January 1, 2017, the Company lowered the long-term rate-of-return assumption to 7.5% to better reflect the expected returns of its current investment portfolio.

Future actual pension income and expense will depend on future investment performance, changes in future discount rates and various other factors related to the population of participants in the Company's pension plans.

The Company expects to make cash contributions of approximately $700,000 and $103,000 to its pension plans and other postretirement plan, respectively, in 2017.

In connection with its pension and other postretirement benefits, the Company reported a ($1.1) million, $3.5 million, and ($10.4) million gain/(loss) (net of tax) on its Consolidated Statement of Comprehensive Income in Fiscal 2016, 2015 and 2014, respectively. While the main factor driving these gain/(loss) is the discount rate changes during the applicable period, the Company froze the benefits of its salaried pension plan effective May 31, 2016 resulting an approximate $2.5 million gain for this significant event. In Fiscal 2014 the loss was also impacted to a lesser degree by the Company's adoption of new mortality tables for all of its plans and a change of actuarial firms for one of its plans.

Assumptions used to determine net periodic pension benefit cost for the fiscal years indicated were as follows:

	2016	2015	2014
Discount rate	4.24% - 4.28%	3.90%	4.80%
Expected return on plan assets	8.0%	8.0%	8.0%
Rate of compensation increase	3.25%	3.25%	3.25%

Assumptions used to determine net periodic other postretirement benefit cost are the same as those assumptions used for the pension benefit cost, except that the rate of compensation is not applicable for other postretirement benefit cost.

The changes in assumptions had the following effect on the net periodic pension and other postretirement costs recorded in Other Comprehensive Income as follows:

	Year ended	
December 31	January 2	January 3

	2016	2016	2015
Discount rate	$ (2,394,216)	$ 4,208,918	$ (11,046,554)
Mortality table	--	--	(2,883,430)
Additional recognition due to significant event	2,534,589	--	--
Asset gain or loss	(4,358,254)	(577,892)	(257,073)
Amortization of:			
Unrecognized gain or loss	1,610,942	1,947,102	944,130
Unrecognized prior service cost	176,678	194,696	194,697
Other	776,658	(415,479)	(3,105,095)
Comprehensive income, before tax	(1,653,603)	5,357,345	(16,153,325)
Income tax	(543,297)	1,899,285	(5,767,236)
Comprehensive income, net of tax	$ (1,110,306)	$ 3,458,060	$ (10,386,089)

During 2014, the Company changed actuaries for one of its pension plans. As a result of the new actuary's following a different process, there was an approximate $3 million increase in benefit obligations for this plan. We have reviewed the increase with the new actuary and agree that the increase should be included in the Plan's liability as of the end of Fiscal 2014. This amount is included in the Other category in the above chart. We also reviewed the new actuary's process, analysis and results and believe they are appropriate for reporting purposes.

The Company has been investing a portion of the assets in long-term bonds in an effort to better match the impact of changes in interest rates on its assets and liabilities, and thus reduce some of the volatility in Other Comprehensive Income. Please refer to Note 10 – Retirement Benefit Plans in Item 8 of the Form 10-K for additional disclosures concerning the Company's pension and other postretirement benefit plans.

RESULTS OF OPERATIONS

Fiscal 2016 Compared to Fiscal 2015

The following table shows, for 2016 and 2015, selected line items from the consolidated statements of income as a percentage of net sales, by segment.

	Industrial Hardware	Security Products	Metal Products	Total
			2016	
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	72.8%	72.0%	91.4%	75.1%
Gross margin	27.2%	28.0%	8.6%	24.9%
Selling and administrative expense	17.9%	18.1%	9.8%	16.8%
Operating profit	9.3%	9.9%	-1.2%	8.1%
			2015	
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	74.8%	74.4%	90.8%	77.6%
Gross margin	25.2%	25.6%	9.2%	22.4%
Selling and administrative expense	18.2%	18.9%	9.5%	16.8%
Operating profit	7.0%	6.7%	-0.3%	5.6%

The following table shows the amount of change from 2015 to 2016 in sales, cost of products sold, gross margin, selling and administrative expenses, and operating profit, by segment (dollars in thousands):

	Industrial Hardware	Security Products	Metal Products	Total
Net sales	$ (280)	$ 657	$ (7,336)	$ (6,959)
Volume	-8.1%	0.4%	-28.5%	-8.5%
Prices	-0.6%	-0.4%	0.0%	-0.4%
New Products	8.2%	1.1%	0.9%	4.1%
	-0.5%	1.2%	-27.5%	-4.8%

Cost of products sold	$ (1,422)	$ (899)	$ (6,550)	$ (8,871)
	-3.1%	-2.1%	-27.1%	-7.9%
Gross margin	$ 1,142	$ 1,556	$ (786)	$ 1,912
Selling and administrative expenses	$ (228)	$ (323)	$ (645)	$ (1,196)
	2.0%	-3.0%	-25.4%	-4.9%
Operating profit	$ 1,370	$ 1,879	$ (141)	$ 3,108
	31.7%	49.5%	-166.3%	38.7%

Industrial Hardware Segment

Net sales in the Industrial Hardware segment decreased less than 1% in 2016 from the 2015 level. Sales of existing product decreased 8% in 2016 as the result of a decrease in our lightweight composite material for the Class 8 truck market. This decrease was offset by an 8% increase in the new product sales of lightweight composite panels for electronic smartboards.

Cost of products sold for the Industrial Hardware segment decreased $1.4 million or 3% from 2015 to 2016. The most significant factors resulting in changes in cost of products sold in 2016 compared to 2015 included:

§ a decrease of $0.9 million or 4% in raw materials;
§ a decrease of $0.6 million or 4% in costs for payroll and payroll related charges;
§ a decrease of $0.1 million or 9% for supplies and tools;
§ a decrease of $0.1 million or 8% in depreciation charges;
§ a decrease of $0.2 million or 94% in miscellaneous income;
§ and an increase of $0.2 million or 46% in foreign exchange costs.

Gross margin for 2016 of 27% increased as compared to 25% in the 2015 period for the Industrial Hardware segment. The increase reflects the mix of products produced, the changes in cost of products sold discussed above, and lower utilization of our production facilities in both Kelowna, British Columbia, Canada and North Carolina.

Selling and administrative expenses in the Industrial Hardware segment decreased $0.2 million or 2% from 2015 to 2016. The most significant factors resulting in changes in selling and administrative expenses in the Industrial Hardware segment in 2016 compared to 2015 included:

§ a decrease of $0.3 million or 4% in payroll and payroll related charges;
§ and increase of $0.1 million or 12% in administrative charges.

Security Products Segment

Net sales in the Security Products segment increased 1% in 2016 from the 2015 level. The increase in sales in 2016 in the Security Products segment compared to the prior year period was a combination of primarily volume sales and new product sales in the laundry industry (partially offset by a decrease in the vehicle lock industry). Sales volume increased in the smart card and flash cash products sold in the international laundry market. New products included high security equipment for add value card systems in the laundry industry and also, new product sales in the storage, locksmith and industrial distribution and electronic locking enclosures industries. New product sales included a zinc branded puck lock, a spring return lock, a push button lock and a mini cam lock.

Cost of products sold for the Security Products segment decreased $0.9 million or 2% from 2015 to 2016. The most significant factors resulting in changes in cost of products sold in 2016 compared to 2015 included:

§ a decrease of $0.4 million or 2% in raw materials;
§ a decrease of $0.9 million or 11% in payroll and payroll related charges;
§ an increase of $0.2 million or 57% in foreign exchange gains;
§ an increase of $0.1 million or 12% in engineering costs;

§ an increase of $0.1 million or 8% in supplies and tools;
§ and an increase of $0.1 million or 30% in insurance costs.

Gross margin as a percentage of sales in the Security Products segment increased from 26% in 2015 to 28% in 2016. The increase reflects the mix of products produced and the changes in cost of products sold discussed above.

Selling and administrative expenses in the Security Products segment decreased $0.3 million or 3% from 2015 to 2016. The most significant factors resulting in changes in selling and administrative expenses in the Security Products segment in 2016 compared to 2015 included:

§ a decrease of $0.3 million or 4% in payroll and payroll related charges;
§ a decrease of $0.1 million or 278% in bad debt charges;
§ a decrease of $0.1 million or 21% in commissions and royalty expenses;
§ and an increase of $0.3 million or 27% in other administration expenses.

Metal Products Segment

Net sales in the Metal Products segment decreased 28% in 2016 from the 2015 level. Sales of mine products decreased 26% and industrial casting products decreased 41% in 2016 compared to 2015. The decrease in sales of mining products was driven by lower demand for existing products compared to the prior year period primarily in the U.S. mining market where lower oil and natural gas prices coupled with excessive coal inventories have reduced demand for our products. U.S. coal production is expected to rise in 2017. New products increased sales by 1%, consisting of tie plates for the rail industry and pipe fittings for the water, oil and gas industries. The Company is actively developing new customers in the industrial casting business and is close to producing several new products gas, water and energy industry.

Cost of products sold for the Metal Products segment decreased $6.6 million or 27% from 2015 to 2016. The most significant factors resulting in changes in cost of products sold in 2016 compared to 2015 included:

§ a decrease of $3.8 million or 39% in costs for payroll and payroll related charges;
§ a decrease of $2.1 million or 61% for supplies and tools;
§ a decrease of $0.9 million or 53% in costs for maintenance and repair;
§ a decrease of $0.6 million or 34% for utility costs;

§ an increase of $0.8 million or 18% in raw materials;

§ and an increase of $0.2 million or 299% in tools and jigs costs.

Gross margin as a percentage of sales in the Metal Products segment was approximately the same at 9% in both 2015 and 2016.

Selling and administrative expenses in the Metal Products segment decreased $0.6 million or 25% from 2015 to 2016. The most significant factor resulting in changes in selling and administrative expenses in the Metal Products segment in 2016 compared to 2015 was:

§ a decrease of $0.5 million or 29% in payroll and payroll related charges;
§ and a decrease of $0.1 million or 72% in commissions and royalty charges.

Other Items

The following table shows the amount of change from 2015 to 2016 in other items (dollars in thousands):

	Amount	%
Interest expense	$ (64)	-35%
Other income	$ 30	17%
Income taxes	$ 1,114	50%

Interest expense decreased from 2015 to 2016 due to the decreased level of debt in 2016.

Other income which is not material to the financial statements increased from 2015 to 2016 due to the Company recognizing $144,231 in income as a result of Argo EMS not meeting the sales goals for the 2nd year earn-out period.

Income taxes – the effective tax rate for 2016 was 31% compared to the 2015 rate which was 29%. The effective tax rate for 2016 was higher than the prior year period due to the ratio of earnings in the United States to that of foreign entities with lower tax rates.

Fiscal 2015 Compared to Fiscal 2014

The following table shows, for 2015 and 2014, selected line items from the consolidated statements of income as a percentage of net sales, by segment.

	Industrial Hardware	Security Products	Metal Products	Total
			2015	
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	74.8%	74.4%	90.8%	77.6%
Gross margin	25.2%	25.6%	9.2%	22.4%
Selling and administrative expense	18.2%	18.9%	9.5%	16.8%
Operating profit	7.0%	6.7%	-0.3%	5.6%
			2014	
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of products sold	74.4%	74.9%	84.6%	76.9%
Gross margin	25.6%	25.1%	15.4%	23.1%
Selling and administrative expense	17.0%	16.9%	7.5%	14.8%
Operating profit	8.6%	8.2%	7.9%	8.3%

The following table shows the amount of change from 2014 to 2015 in sales, cost of products sold, gross margin, selling and administrative expenses, and operating profit, by segment (dollars in thousands):

	Industrial Hardware	Security Products	Metal Products	Total
Net sales	$ 2,673	$ 7,217	$ (6,147)	$ 3,743
Volume	-6.7%	3.0%	-20.3%	-6.4%
Prices	0.2%	0.2%	0.0%	0.1%
New Products	11.1%	11.4%	1.5%	9.0%
	4.6%	14.6%	-18.8%	2.7%
Cost of products sold	$ 2,275	$ 5,135	$ (3,562)	$ 3,848
	5.2%	13.9%	-12.8%	3.6%
Gross margin	$ 398	$ 2,082	$ (2,585)	$ (105)
	2.6%	16.8%	-51.3%	-0.3%
Selling and administrative expenses	$ 1,147	$ 2,343	$ 96	$ 3,586
	11.5%	28.1%	3.9%	17.3%
Operating profit	$ (750)	$ (260)	$ (2,681)	$ (3,691)
	-14.8%	-6.4%	-103.3%	-31.5%

Industrial Hardware Segment

Net sales in the Industrial Hardware segment increased 5% in 2015 from the 2014 level. Sales of existing product decreased 7% in 2015 as the result of an 8% decrease in the Western Star 4900 Starlight sleeper cab made from our lightweight composite material. This decrease was partially offset by increases in existing products sold into the class 5 & 6 light service body vehicle market, military after market, distribution, trailer and truck equipment markets. New products increased sales by 11%, consisting of a new model sleeper cab for the Western Star 5700EX arrow dynamic class 8 truck made of our light weight composite materials which contributed 8%. The balance of the increase was from sales of various truck hardware consisting of T-Handles, rear door locks, draw latch, compression latch, paddle latch, handle latch and refrigerator van panels. All new products were developed internally.

Cost of products sold for the Industrial Hardware segment increased $2.3 million or 5% from 2014 to 2015. The most significant factors resulting in changes in cost of products sold in 2015 compared to 2014 included:

§ an increase of $0.7 million or 3% in raw materials;
§ an increase of $0.6 million or 158% in pension costs;
§ an increase of $0.2 million or 1% in costs for payroll and payroll related charges;
§ an increase of $0.2 million or 16% for supplies and tools;
§ an increase of $0.1 million or 13% in shipping expenses;
§ an increase of $0.1 million or 31% in rent expense;
§ and a decrease of $0.3 million or 50% for scrap sales.

Gross margin for 2015 of 25% decreased as compared to 26% in the 2014 period for the Industrial Hardware segment. The decrease reflects the mix of products produced, the changes in cost of products sold discussed above, and lower utilization of our production facilities in both Kelowna, British Columbia, Canada and North Carolina where we produce sleeper cabs and where production has been slow due to lower customer orders.

Selling and administrative expenses in the Industrial Hardware segment increased $1.2 million or 12% from 2014 to 2015. The most significant factors resulting in changes in selling and administrative expenses in the Industrial Hardware segment in 2015 compared to 2014 included:

§ an increase of $0.8 million or 100% in allocated proxy contest costs;
§ and an increase of $0.3 million or 13% in payroll and payroll related charges.

Security Products Segment

Net sales in the Security Products segment increased 15% in 2015 from the 2014 level. The increase in sales in 2015 in the Security Products segment compared to the prior year period was primarily the result of sales of new products from the Argo EMS acquisition in mid-December of 2014 which in 2015 contributed 10% in new product sales of printed circuit boards for the industrial controls, medical and military markets. New product sales also included a detach latch, a short length cam lock, new computer lock, a carded cable luggage lock, a brass rekeyable padlock and an electronic lock for medical enclosures. Sales of existing products contributed 3% in increased sales from the 2014 level, the majority consisting of our electronic payment solution products offered in both domestic and international markets.

Cost of products sold for the Security Products segment increased $5.1 million or 14% from 2014 to 2015. The major factor increasing costs in 2015 from 2014 was the result of the full year of costs generated by Argo EMS which was acquired in December 2014. The most significant factors resulting in changes in cost of products sold in 2015 compared to 2014 included:

§ an increase of $2.9 million or 13% in raw materials;
§ an increase of $1.1 million or 16% in payroll and payroll related charges;
§ an increase of $0.8 million or 110% in pension charges;
§ an increase of $0.3 million or 396% in foreign exchange gains;
§ an increase of $0.2 million or 54% in other miscellaneous expenses
§ an increase of $0.1 million or 9% in shipping expenses;
§ an increase of $0.1 million or 12% in engineering costs;
§ an increase of $0.1 million or 33% in depreciation expenses;
§ a decrease of $0.3 million or 27% in supplies and tools;

§ and a decrease of $0.1 million or 23% in insurance costs.

Gross margin as a percentage of sales in the Security Products segment increased from 25% in 2014 to 26% in 2015. The increase reflects the mix of products produced and the changes in cost of products sold discussed above, as well as the higher margin products being sold associated with the acquisition of Argo EMS in December of 2014.

Selling and administrative expenses in the Security Products segment increased $2.3 million or 28% from 2014 to 2015. The major factor increasing costs in 2015 from 2014 was the result of the full year of costs generated by Argo EMS which was acquired in December 2014. The most significant factors resulting in changes in selling and administrative expenses in the Security Products segment in 2015 compared to 2014 included:

§ an increase of $0.8 million or 15% in payroll and payroll related charges;
§ an increase of $0.8 million or 100% in allocated proxy contest costs;
§ an increase of $0.3 million or 39% in other administrative expenses;
§ an increase of $0.1 million or 75% in D&O insurance expense;
§ and an increase of $0.2 million or 286% in patent amortization expenses.

Metal Products Segment

Net sales in the Metal Products segment decreased 19% in 2015 from the 2014 level. Sales of mine products decreased 17% and contract casting products decreased 3% in 2015 compared to 2014. The decrease in sales of mining products was driven by lower demand for existing products compared to the prior year period primarily in the U.S. mining market where lower oil and natural gas prices coupled with excessive coal inventories have reduced demand for our products. New products increased sales by 1%, consisting of tie plates for the rail industry and pipe fittings for the water, oil and gas industries. The Company is actively developing new customers in the contract casting business and is close to producing product to help offset the softening in the mining industry. The mining industry is expected to remain soft into 2016. The Company continues to monitor this market closely, and is preparing to make the necessary cost reductions as deemed appropriate.

Cost of products sold for the Metal Products segment decreased $3.6 million or 13% from 2014 to 2015. The most significant factors resulting in changes in cost of products sold in 2015 compared to 2014 included:

§ an increase of $0.2 million or 67% in scrap costs;
§ an increase of $0.2 million or 155% in pension charges;
§ an increase of $0.1 million or 9% in depreciation expense;
§ a decrease of $2.2 million or 35% in raw material costs;
§ a decrease of $0.8 million or 7% in costs for payroll and payroll related charges;
§ a decrease of $0.4 million or 10% for supplies and tools;
§ a decrease of $0.3 million or 14% for utility costs;

§ and a decrease of $0.3 million or 14% in costs for maintenance and repair.

Gross margin as a percentage of sales in the Metal Products segment decreased from 15% in 2014 to 9% in 2015. The decrease in gross margin compared to the prior year is due to the mix of products produced, the changes in cost of products sold enumerated above, and lower utilization of our production capacity.

Selling and administrative expenses in the Metal Products segment increased $0.1 million or 4% from 2014 to 2015. The most significant factor resulting in changes in selling and administrative expenses in the Metal Products segment in 2015 compared to 2014 was:

§ an increase of $0.4 million or 100% in allocated proxy contest charges;
§ and a decrease of $0.2 million or 31% in payroll and payroll related charges;

Other Items

The following table shows the amount of change from 2014 to 2015 in other items (dollars in thousands):

	Amount	%
Interest expense	$ (69)	-27%
Other income	$ 114	176%

Income taxes	$ (1,573)	-41%

Interest expense decreased from 2014 to 2015 due to the decreased level of debt in 2015.

Other income which is not material to the financial statements increased from 2014 to 2015 due to the Company recognizing $138,683 in income as a result of Argo EMS not meeting the sales goals for the 1st year earn-out period.

Income taxes – the effective tax rate for 2015 was 29% compared to the 2014 rate which was 34%. The effective tax rate for 2015 was lower than the prior year period due to the ratio of earnings in the United States to that of foreign entities with lower tax rates.

Liquidity and Sources of Capital

The Company's financial position strengthened in 2016. The primary source of the Company's cash is earnings from operating activities adjusted for cash generated from or used for net working capital. The most significant recurring non-cash items included in net income are depreciation and amortization expense. Changes in working capital fluctuate with the changes in operating activities. As sales increase, there generally is an increased need for working capital. Since increases in working capital reduce the Company's cash, management attempts to keep the Company's investment in net working capital at a reasonable level by closely monitoring inventory levels and matching production to expected market demand, keeping tight control over the collection of receivables, and optimizing payment terms on its trade and other payables.

The Company is dependent on the continued demand for its products and subsequent collection of accounts receivable from its customers. The Company serves a broad base of customers and industries with a variety of products. As a result, any fluctuations in demand or payment from a particular industry or customer should not have a material impact on the Company's sales and collection of receivables. Management expects that the Company's foreseeable cash needs for operations, capital expenditures, debt service and dividend payments will continue to be met by the Company's operating cash flows and available credit facility.

The following table shows key financial ratios at the end of each year:

	2016	2015	2014
Current ratio	6.0	5.0	5.3
Average days' sales in accounts receivable	49	47	49
Inventory turnover	3.0	3.0	3.1
Ratio of working capital to sales	47.1%	41.6%	41.1%
Total debt to shareholders' equity	2.2%	4.0%	5.7%

The following table shows important liquidity measures as of the fiscal year-end balance sheet date for each of the preceding three years (in millions):

	2016	2015	2014
Cash and cash equivalents			
- Held in the United States	$ 11.2	$ 6.9	$ 5.6
- Held by foreign subsidiary	11.5	10.9	10.2
	22.7	17.8	15.8
Working capital	64.8	60.1	57.8
Net cash provided by operating activities	12.4	9.1	9.3
Change in working capital impact on net cash (used)/provided by operating activities	(0.5)	(2.0)	(1.8)
Net cash used in investing activities	(2.9)	(2.5)	(8.6)
Net cash (used in)/provided by financing activities	(4.2)	(3.9)	(4.5)

U.S. income taxes have not been provided on the undistributed earnings of the Company's foreign subsidiaries except where required under U.S. tax laws. The Company would be required to accrue and pay United States income taxes to repatriate the funds held by foreign subsidiaries not otherwise provided. The Company intends to reinvest these earnings outside the United States indefinitely.

All cash held by foreign subsidiaries is readily convertible into other currencies, including the U.S. Dollar.

Net cash provided by operating activities was $12.4 million compared to $9.1 million in 2015 and $9.3 million in 2014. In 2016, the Company was not required, and did not contribute anything into its salaried retirement plan, as compared to the $2 million contribution made in 2015. Also in 2015 and 2016 the Company improved the benefits of its 401(k) Plan with the result being increased contributions of approximately $380,000 in 2016 over 2015 contributions. See Note 10 – Retirement Benefit Plans for details of the Plan changes. Finally, in 2015 the Company paid approximately $1.4 million, net of tax, associated with the proxy contest in the first half of 2015 which did not reoccur in 2016. While not a significant change from 2014, inventory increased $3.1 million in 2015, mainly the result of a $1.2 million increase at our Metal Products segment as a result of a slowdown in business in the mining industry and a $0.6 change in LIFO reserves as a result of declining metal prices in all of our segments.

The Company, across all of its business segments, has increased its emphasis on sales and customer service by fulfilling the rapid delivery requirements of our customers. As a result, investments in additional inventories are made on a selective basis.

In Fiscal 2016 inventory declined $2.5 million mainly due to inventory reduction in the Metal Product segment in response to the slowdown in the mining industry in 2015 and 2016. This change was offset by an increase in accounts receivable of $1.1 million due to increased sales late in the fiscal year and a reduction of accounts payable related to the previously mentioned inventory reduction. In Fiscal 2015 the impact on cash from the net change in working capital was a decline of approximately $2.0 million, due mainly to increased inventory and accounts receivable offset by declines in accounts payable, prepaid expenses and recoverable taxes. In Fiscal 2014 the impact on cash from the net change in working capital was a decline of approximately $1.8 million, due mainly to the increased inventory levels at the end of the year

The Company used $2.9 million, $2.5 million and $8.6 million for investing activities in 2016, 2015 and 2014 respectively. Included in the 2014 figure is approximately $5.0 million used for the acquisition of the assets of Argo Transdata Corporation. This transaction is more fully discussed in Note 3 of the 2016 Audited Financial Statements located in Item 8 of this Form 10-K. Virtually the entire amount of cash used in investing activities in Fiscal 2016 and 2015 and the balance of $3.6 million in 2014 was used for the purchase of fixed assets. Capital expenditures in Fiscal 2017 are expected to be in the range of $3 million.

In Fiscal 2016, the Company used approximately $4.2 million in cash for financing activities. Approximately $1.4 million was used for debt repayments, and another $2.8 million was paid in dividends.

In Fiscal 2015, the Company used approximately $3.9 million in cash for financing activities. Approximately $1.1 million was used for debt repayments, and another $2.8 million was paid in dividends.

In Fiscal 2014 the Company used approximately $4.5 million in cash for financing activities. The major reason for the increase over the level used in Fiscal 2013 relates to a higher dividend rate ($0.48 and $0.42 in Fiscal 2014 and 2013 respectively) and the fact that the Company was required to make a fifth debt payment as a result of the 53 week year in Fiscal 2014.

The Company leases certain equipment and buildings under cancelable and non-cancelable operating leases expiring at various dates up to five years. Rent expense amounted to approximately $1.3 million in 2016; $1.3 million in 2015; and $1.2 million in 2014.

On January 29, 2010, the Company signed a secured Loan Agreement (the “Loan Agreement”) with People’s United Bank (“People’s”) which included a $5,000,000 term portion and a $10,000,000 revolving credit portion. The term portion of the loan requires quarterly principal payments of $178,571 for a period of seven (7) years, maturing on January 31, 2017. The revolving credit portion had a quarterly commitment fee of one quarter of one percent (0.25%), and a maturity date of January 31, 2012. The Loan Agreement is secured by all of the assets of the Company.

On January 25, 2012 the Company amended the Loan Agreement by taking an additional $5,000,000 term loan (the “2012 Term Loan”). The 2012 Term Loan requires quarterly principal payments of $178,571 for a period of seven (7) years, maturing on January 31, 2019. At the same time the maturity date of the revolving credit portion was extended to January 31, 2014 and continued to have a quarterly commitment fee of one quarter of one percent (0.25%).

Interest on the original term portion of the Loan Agreement is fixed at 4.98%. Interest on the 2012 Term Loan is fixed at 3.90%. For the period from January 25, 2012 to January 23, 2014, interest on the revolving credit portion of the Loan Agreement varied based on the LIBOR rate or People's Prime rate plus 2.25%, with a floor of 3.25% with a maturity date of January 31, 2014. On January 23, 2014, the Company amended the Loan Agreement with People's. The amendment renewed and extended the maturity date of the revolving credit portion of the Loan Agreement to July 1, 2016 and changed the interest rate to LIBOR plus 2.25%, and eliminated the 3.25% floor previously in place. The interest rate at December 31, 2016 on the revolving credit portion of the Loan Agreement was 3.02%. The quarterly commitment fee of one quarter of one percent (0.25%) remained unchanged. On June 9, 2016, the Company signed a third amendment to its secured Loan Agreement which extended the maturity date of the $10,000,000 revolver portion of the Loan Agreement to July 1, 2018. The Company did not utilize the revolving credit portion of the Loan Agreement at any time during 2015 or 2016.

The Company's loan covenants under the Loan Agreement require the Company to maintain a fixed charge coverage ratio of at least 1.1 to 1, a leverage ratio of no more than 1.75 to 1, and minimum tangible net worth of $43 million increasing each year by
50% of consolidated net income. This amount was approximately $52.8 million as of December 28, 2013. As part of an amendment to the Loan Agreement signed on January 23, 2014, the leverage ratio was eliminated, and the minimum tangible net worth covenant was modified to a fixed minimum amount of $55 million, effective with the end of the Company's first quarter of 2014. In addition, the Company has restrictions on, among other things, new capital leases, purchases or redemptions of its

capital stock, mergers and divestitures, and new borrowing. The Company was in compliance with all covenants in 2015 and 2016.

The quarterly payment dates as listed in the Loan Agreement are the first business day of the calendar quarter. As a result, there were five scheduled payments in Fiscal 2014 and only three in Fiscal 2015. In Fiscal 2016 there were four scheduled payments.

Tabular Disclosure of Contractual Obligations

The Company's known contractual obligations as of December 31, 2016, are shown below (in thousands):

	Payments due by period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Long-term debt obligations	$ 1,786	$ 893	$ 893	$ --	$ --
Estimated interest on long-term debt	70	49	21	--	--
Operating lease obligations	3,986	1,218	1,886	800	82
Estimated contributions to pension plans	26,632	877	6,096	7,466	12,193
Estimated other postretirement benefits other than pensions	1,052	103	213	224	512
Total	$ 33,526	$ 3,140	$ 9,109	$ 8,490	$ 12,787

The amounts shown in the above table for estimated contributions to pension plans and estimated postretirement benefits other than pensions are based on the assumptions in Note 10 to the consolidated financial statements, as well as the assumption that participant counts will remain stable.

The Company does not have any non-cancellable open purchase obligations.

The Company believes it has sufficient cash on hand and credit resources available to it to sustain itself though the next fiscal year.

ITEM 7A QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company's foreign manufacturing facilities account for approximately 14% of total sales and 14% of total assets. Its U.S. operations buy from and sell to these foreign affiliates, and also make limited sales (approximately 15% of total sales) to nonaffiliated foreign customers. This trade activity could be affected by fluctuations in foreign currency exchange or by weak economic conditions. The Company's currency exposure is concentrated in the Canadian dollar, Mexican peso, New Taiwan dollar, Chinese RMB and Hong Kong dollar. Because of the Company's limited exposure to any single foreign market, any exchange gains or losses have not been material and are not expected to be material in the future. Had the exchange rate as of December 31, 2016 for all of the listed currencies changed by 1%, the total change in reported earnings would have been approximately $37,000. As a result, the Company does not attempt to mitigate its foreign currency exposure through the acquisition of any speculative or leveraged financial instruments. In 2016, a 10% increase/decrease in exchange rates would have resulted in a translation increase/decrease to sales of approximately $1.8 million, and to equity of approximately $680,000.

The Company has been able to recover cost increases in raw materials through either price increases to our customers or cost reductions in other areas of the business. Therefore, the Company has not entered into any contracts to address commodity price risk.

The Company does not have any interest rate risk as all of its long-term debt bears interest at a fixed rate. See Note 5 of the Company's financial statements included at Item 8 of this Annual Report on Form 10-K for complete details.

ITEM 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The Eastern Company

Consolidated Balance Sheets

	December 31 2016	January 2 2016
ASSETS		
Current Assets		
Cash and cash equivalents	$ 22,725,376	$ 17,814,986
Accounts receivable, less allowances of $430,000 in 2016 and $450,000 in 2015	18,135,792	17,502,445
Inventories:		
Raw materials and component parts	8,829,236	10,913,827
Work in process	7,118,149	7,681,576
Finished goods	18,082,901	18,247,010
	34,030,286	36,842,413
Prepaid expenses and other assets	1,858,471	2,122,215
Deferred income taxes	947,001	986,167
Total Current Assets	77,696,926	75,268,226
Property, Plant and Equipment		
Land	1,159,901	1,159,732
Buildings	16,303,521	16,072,536
Machinery and equipment	47,447,649	46,205,973
Accumulated depreciation	(38,745,557)	(36,636,775)
	26,165,514	26,801,466
Other Assets		
Goodwill	14,819,835	14,790,793
Trademarks	166,312	164,957
Patents, technology and other intangibles net of accumulated amortization	1,764,449	2,113,576
Deferred income taxes	3,585,360	2,599,541
	20,335,956	19,668,867
TOTAL ASSETS	$ 124,198,396	$ 121,738,559

Consolidated Balance Sheets

	December 31 2016	January 2 2016
LIABILITIES AND SHAREHOLDERS’ EQUITY		
Current Liabilities		
Accounts payable	$ 7,048,174	$ 9,109,394
Accrued compensation	3,112,404	2,873,871
Other accrued expenses	1,812,647	1,751,052
Current portion of long-term debt	892,857	1,428,571
Total Current Liabilities	12,866,082	15,162,888
Other long-term liabilities	288,805	286,920
Long-term debt, less current portion	892,857	1,785,714
Accrued other postretirement benefits	1,051,700	793,055
Accrued pension cost	26,631,438	24,304,926
Commitments and contingencies (See Note 4)		
Shareholders’ Equity		
Voting Preferred Stock, no par value:		
Authorized and unissued: 1,000,000 shares		
Nonvoting Preferred Stock, no par value:		
Authorized and unissued: 1,000,000 shares		
Common Stock, no par value:		
Authorized: 50,000,000 shares		
Issued: 8,950,827 shares in 2016 and 8,942,461 shares in 2015		