



NL INDUSTRIES

2019

ANNUAL REPORT

NL INDUSTRIES, INC. CORPORATE AND OTHER INFORMATION

Board of Directors

Loretta J. Feehan
*Chair of the Board (non-executive)
Financial Consultant*

Robert D. Graham
*Vice Chairman and
Chief Executive Officer*

John E. Harper (a)
Private Investor

Meredith W. Mendes (a)
*Executive Director and Chief
Operating Officer
Jenner & Block LLP*

C.H. Moore, Jr. (a)(b)
*Retired Partner
KPMG LLP*

Gen. Thomas P. Stafford (ret.) (a)(b)
United States Air Force (retired)

Board Committees

(a) *Audit Committee*

(b) *Management Development and
Compensation Committee*

Corporate Officers

Robert D. Graham
*Vice Chairman and Chief Executive
Officer*

Courtney J. Riley
President

Kelly D. Luttmr
*Executive Vice President and
Chief Tax Officer*

Andrew B. Nace
Executive Vice President

Patty S. Brinda
Vice President and Controller

Clarence B. Brown, III
*Vice President, Associate
General Counsel and Secretary*

Steve S. Eaton
*Vice President,
Internal Control over
Financial Reporting*

Bryan A. Hanley
Vice President and Treasurer

Patricia A. Kropp
Vice President, Employee Benefits

John R. Powers, III
*Vice President and General
Counsel*

Amy A. Samford
*Vice President and Chief Financial
Officer*

Management of Subsidiary and Affiliate

CompX International Inc.

Scott C. James
*President and
Chief Executive Officer*

Kronos Worldwide, Inc.

Robert D. Graham
*Vice Chairman, President and
Chief Executive Officer*

Annual Meeting

The 2020 Annual Meeting of Stockholders will be held at the office of the Company, Three Lincoln Centre, 5430 LBJ Freeway, Suite 1700, Dallas, Texas, 75240-2620, on the day and time as set forth in the notice of the meeting, proxy statement and form of proxy that will be mailed to stockholders in advance of the meeting.

Form 10-K Report

The Company's Annual Report on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission, is printed as part of this Annual Report. Additional copies are available without charge upon written request to:

Janet Keckeisen
Vice President, Investor Relations
NL Industries, Inc.
Three Lincoln Centre
5430 LBJ Freeway, Suite 1700
Dallas, Texas 75240-2620

Transfer Agent

Computershare acts as transfer agent, registrar and dividend paying agent for the Company's common stock. Communications regarding stockholder accounts, dividends and change of address should be directed to:

Computershare Trust Company, N.A.
P.O. Box 505000
Louisville, Kentucky 40233-5000
Telephone: (877) 373-6374
<http://www.computershare.com/investor>

Visit us on the Web

<http://www.nl-ind.com>

Stock and Class A Exchanges

NL's common shares are listed on the New York Stock Exchange under the symbol "NL"

CompX's Class A common shares are listed on the NYSE American under the symbol "CIX."

Kronos' common shares are listed on the New York Stock Exchange under the symbol "KRO."

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

FORM 10-K

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

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 1-640

NL INDUSTRIES, INC.

(Exact name of Registrant as specified in its charter)

New Jersey
(State or other jurisdiction of
incorporation or organization)

13-5267260
(IRS Employer
Identification No.)

5430 LBJ Freeway, Suite 1700
Dallas, Texas 75240-2620
(Address of principal executive offices)

Registrant's telephone number, including area code: (972) 233-1700

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common stock	NL	NYSE

No securities are registered pursuant to Section 12(g) of the Act.

Indicate by check mark:

If the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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 and (2) has been subject to such filing requirements for the past 90 days. Yes No

Whether the Registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes No

Whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company or emerging growth company (as defined in Rule 12b-2 of the Act). See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/> Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/> Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the 8.4 million shares of voting stock held by nonaffiliates of NL Industries, Inc. as of June 28, 2019 (the last business day of the Registrant's most recently-completed second fiscal quarter) approximated \$30.5 million.

Number of shares of the registrant's common stock, \$.125 par value per share, outstanding on February 28, 2020: 48,755,734.

Documents incorporated by reference

The information required by Part III is incorporated by reference from the Registrant's definitive proxy statement to be filed with the Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report.

PART I

ITEM 1. BUSINESS

The Company

NL Industries, Inc. was organized as a New Jersey corporation in 1891. Our common stock trades on the New York Stock Exchange, or the NYSE, under the symbol NL. References to “NL Industries,” “NL,” the “Company,” the “Registrant,” “we,” “our,” “us” and similar terms mean NL Industries, Inc. and its subsidiaries and affiliate, unless the context otherwise requires.

Our principal executive offices are located at Three Lincoln Center, 5430 LBJ Freeway, Suite 1700, Dallas, TX 75240. Our telephone number is (972) 233-1700. We maintain a website at www.nl-ind.com.

Business summary

We are primarily a holding company. We operate in the component products industry through our majority-owned subsidiary, CompX International Inc. (NYSE American: CIX). We operate in the chemicals industry through our noncontrolling interest in Kronos Worldwide, Inc. CompX and Kronos (NYSE: KRO) each file periodic reports with the Securities and Exchange Commission (SEC).

Organization

At December 31, 2019, Valhi, Inc. (NYSE: VHI) held approximately 83% of our outstanding common stock and a wholly-owned subsidiary of Contran Corporation held an aggregate of 92% of Valhi’s outstanding common stock. As discussed in Note 1 to our Consolidated Financial Statements, Lisa K. Simmons, Serena Simmons Connelly and a trust established for the benefit of Ms. Simmons, Ms. Connelly, and their children (the “Family Trust”) may be deemed to control Contran, and therefore may be deemed to indirectly control the wholly-owned subsidiary of Contran, Valhi and us.

Forward-looking statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. Statements in this Annual Report that are not historical facts are forward-looking in nature and represent management’s beliefs and assumptions based on currently available information. In some cases, you can identify forward-looking statements by the use of words such as “believes,” “intends,” “may,” “should,” “could,” “anticipates,” “expects” or comparable terminology, or by discussions of strategies or trends. Although we believe that the expectations reflected in such forward-looking statements are reasonable, we do not know if these expectations will be correct. Such statements by their nature involve substantial risks and uncertainties that could significantly impact expected results. Actual future results could differ materially from those predicted. The factors that could cause actual future results to differ materially from those described herein are the risks and uncertainties discussed in this Annual Report and those described from time to time in our other filings with the SEC and include, but are not limited to, the following:

- Future supply and demand for our products
- The extent of the dependence of certain of our businesses on certain market sectors
- The cyclicity of our businesses (such as Kronos’ TiO₂ operations)
- Customer and producer inventory levels
- Unexpected or earlier-than-expected industry capacity expansion (such as the TiO₂ industry)
- Changes in raw material and other operating costs (such as energy, ore, zinc, aluminum, steel and brass costs) and our ability to pass those costs on to our customers or offset them with reductions in other operating costs
- Changes in the availability of raw material (such as ore)
- General global economic and political conditions that harm the U.S. economy, disrupt our supply chain, increase material costs or reduce demand or perceived demand for Kronos’ TiO₂ and our products

(including changes in the level of gross domestic product in various regions of the world, natural disasters, terrorist acts, global conflicts and public health crises such as the coronavirus)

- Competitive products and substitute products
- Price and product competition from low-cost manufacturing sources (such as China)
- Customer and competitor strategies
- Potential consolidation of Kronos' competitors
- Potential consolidation of Kronos' customers
- The impact of pricing and production decisions
- Competitive technology positions
- Our ability to protect or defend intellectual property rights
- Potential difficulties in integrating future acquisitions
- Potential difficulties in upgrading or implementing accounting and manufacturing software systems
- The introduction of trade barriers or trade disputes
- The impact of current or future government regulations (including employee healthcare benefit related regulations)
- Fluctuations in currency exchange rates (such as changes in the exchange rate between the U.S. dollar and each of the euro, the Norwegian krone and the Canadian dollar), or possible disruptions to our business resulting from uncertainties associated with the euro or other currencies
- Operating interruptions (including, but not limited to, labor disputes, leaks, natural disasters, fires, explosions, unscheduled or unplanned downtime, transportation interruptions and cyber-attacks)
- Decisions to sell operating assets other than in the ordinary course of business
- Kronos' ability to renew or refinance credit facilities
- Our ability to maintain sufficient liquidity
- The timing and amounts of insurance recoveries
- The ability of our subsidiaries or affiliates to pay us dividends
- Uncertainties associated with CompX's development of new products and product features
- The ultimate outcome of income tax audits, tax settlement initiatives or other tax matters, including future tax reform
- Our ability to utilize income tax attributes or changes in income tax rates related to such attributes, the benefits of which may or may not have been recognized under the more-likely-than-not recognition criteria
- Environmental matters (such as those requiring compliance with emission and discharge standards for existing and new facilities or new developments regarding environmental remediation at sites related to our former operations)
- Government laws and regulations and possible changes therein (such as changes in government regulations which might impose various obligations on former manufacturers of lead pigment and lead-based paint, including us, with respect to asserted health concerns associated with the use of such products), including new environmental health and safety regulations such as those seeking to limit or classify TiO₂ or its use
- The ultimate resolution of pending litigation (such as our lead pigment and environmental matters)
- Possible future litigation.

Should one or more of these risks materialize or if the consequences of such a development worsen, or should the underlying assumptions prove incorrect, actual results could differ materially from those currently forecasted or expected. We disclaim any intention or obligation to update or revise any forward-looking statement whether as a result of changes in information, future events or otherwise.

Operations and equity investment

Information regarding our operations and the companies conducting such operations is set forth below. Geographic financial information is included in Note 2 to our Consolidated Financial Statements, which is incorporated herein by reference.

Component Products

CompX International Inc. -
86% owned at
December 31, 2019

CompX manufactures engineered components that are sold to a variety of industries including recreational transportation (including boats), postal, office and institutional furniture, cabinetry, tool storage, healthcare, gas stations and vending equipment. CompX has three production facilities in the United States.

Chemicals

Kronos Worldwide, Inc. -
30% owned at
December 31, 2019

Kronos is a leading global producer and marketer of value-added titanium dioxide pigments, or TiO₂, a base industrial product used in imparting whiteness, brightness, opacity and durability to a diverse range of customer applications and end-use markets, including coatings, plastics, paper, inks, food, cosmetics and other industrial and consumer “quality-of-life” products. Kronos has production facilities in Europe and North America. Sales of TiO₂ represented about 94% of Kronos’ net sales in 2019, with sales of other products that are complementary to Kronos’ TiO₂ business comprising the remainder.

COMPONENT PRODUCTS - COMPX INTERNATIONAL INC.

Industry overview - Through our majority-owned subsidiary, CompX, we manufacture engineered components utilized in a variety of applications and industries. We manufacture mechanical and electrical cabinet locks and other locking mechanisms used in recreational transportation, postal, office and institutional furniture, cabinetry, tool storage and healthcare applications. We also manufacture stainless steel exhaust systems, gauges, throttle controls, wake enhancement systems and trim tabs for the recreational marine and other industries. We continuously seek to diversify into new markets and identify new applications and features for our products, which we believe provide a greater potential for higher rates of earnings growth as well as diversification of risk.

Manufacturing, operations and products - CompX’s Security Products business manufactures mechanical and electrical cabinet locks and other locking mechanisms used in a variety of applications including ignition systems, mailboxes, file cabinets, desk drawers, tool storage cabinets, high security medical cabinetry, electronic circuit panels, storage compartments, gas station security, vending and cash containment machines. CompX’s Security Products segment has one manufacturing facility in Mauldin, South Carolina and one in Grayslake, Illinois which is shared with Marine Components. We believe we are a North American market leader in the manufacture and sale of cabinet locks and other locking mechanisms. These products include:

- disc tumbler locks which provide moderate security and generally represent the lowest cost lock to produce;
- pin tumbler locking mechanisms which are more costly to produce and are used in applications requiring higher levels of security, including *KeSet*[®] and *System 64*[®] (which each allow the user to change the keying on a single lock 64 times without removing the lock from its enclosure), *TuBar*[®] and *Turbine*[™]; and
- our innovative *CompX eLock*[®] and *StealthLock*[®] electronic locks which provide stand-alone or networked security and audit trail capability for drug storage and other valuables through the use of a proximity card, magnetic stripe, radio frequency or other keypad credential.

A substantial portion of CompX’s Security Products’ sales consist of products with specialized adaptations to an individual customer’s specifications, some of which are listed above. We also have a standardized product line suitable for many customers, which is offered through a North American distribution network to locksmith and smaller original equipment manufacturer distributors via our *STOCK LOCKS*[®] distribution program.

CompX’s Marine Components business manufactures and distributes stainless steel exhaust components, gauges, throttle controls, wake enhancement systems, trim tabs and related hardware and accessories primarily for performance and ski/wakeboard boats. CompX’s Marine Components business has a facility in Neenah, Wisconsin and a facility in Grayslake, Illinois which is shared with Security Products. CompX’s specialty Marine Component products are high precision components designed to operate within tight tolerances in the highly demanding marine environment. These products include:

- original equipment and aftermarket stainless steel exhaust headers, exhaust pipes, mufflers and other exhaust components;
- high performance gauges such as GPS speedometers and tachometers;
- mechanical and electronic controls and throttles;
- wake enhancement devices, trim tabs, steering wheels, and billet aluminum accessories; and
- dash panels, LED indicators, wire harnesses and other accessories.

The following table sets forth the location, size and business operations for each of CompX’s principal operating facilities at December 31, 2019:

Facility Name	Business Operations	Location	Size (square feet)
Owned Facilities:			
National ⁽¹⁾	SP	Mauldin, SC	198,000
Grayslake ⁽¹⁾	SP/MC	Grayslake, IL	133,000
Custom ⁽¹⁾	MC	Neenah, WI	95,000

SP – Security Products business

MC – Marine Components business

⁽¹⁾ ISO-9001 registered facilities

We believe all of CompX’s facilities are well maintained and satisfactory for their intended purposes.

Raw materials - The primary raw materials used in CompX’s manufacturing processes are:

- Security Products - zinc and brass (for the manufacture of locking mechanisms).
- Marine Components - stainless steel (for the manufacture of exhaust headers and pipes and wake enhancement systems), aluminum (for the manufacture of throttles and trim tabs) and other components.

These raw materials are purchased from several suppliers, are readily available from numerous sources and accounted for approximately 13% of our total cost of sales for 2019. Total material costs, including purchased components, represented approximately 45% of our cost of sales in 2019.

CompX occasionally enters into short-term commodity-related raw material supply arrangements to mitigate the impact of future price increases in commodity-related raw materials, including zinc, brass and stainless steel. These arrangements generally provide for stated unit prices based upon specified purchase volumes, which help us to stabilize our commodity-related raw material costs to a certain extent. During 2018, markets for the primary commodity-related raw materials used in the manufacture of our locking mechanisms, primarily zinc and brass, generally strengthened, but these markets moderated at the end of 2018 and remained relatively stable through 2019. Over that same period, the market for stainless steel, the primary raw material used for the manufacture of marine exhaust headers and pipes and wake enhancement systems, remained relatively stable. While we expect the markets for our primary commodity-related raw materials to remain stable during 2020, we recognize that economic conditions could introduce renewed volatility on these and other manufacturing materials. When purchased on the spot market, each of these raw materials may be subject to sudden and unanticipated price increases. When

possible, we seek to mitigate the impact of fluctuations in these raw material costs on our margins through improvements in production efficiencies or other operating cost reductions. In the event we are unable to offset raw material cost increases with other cost reductions, it may be difficult to recover those cost increases through increased product selling prices or raw material surcharges due to the competitive nature of the markets served by our products. Consequently, overall operating margins can be affected by commodity-related raw material cost pressures. Commodity market prices are cyclical, reflecting overall economic trends, specific developments in consuming industries and speculative investor activities.

Patents and trademarks - CompX holds a number of patents relating to component products, certain of which we believe to be important to CompX and its continuing business activity. Patents generally have a term of 20 years, and our patents have remaining terms ranging from 1 year to 15 years at December 31, 2019.

Our major trademarks and brand names in addition to *CompX*[®] include:

<u>Security Products</u>	<u>Security Products</u>	<u>Marine Components</u>
<i>CompX</i> [®] <i>Security Products</i> [™]	<i>Lockview</i> [®]	<i>CompX Marine</i> [®]
<i>National Cabinet Lock</i> [®]	<i>System 64</i> [®]	<i>Custom Marine</i> [®]
<i>Fort Lock</i> [®]	<i>SlamCAM</i> [®]	<i>Livorsi</i> [®] <i>Marine</i>
<i>Timberline</i> [®] <i>Lock</i>	<i>RegulatoR</i> [®]	<i>Livorsi II</i> [®] <i>Marine</i>
<i>Chicago Lock</i> [®]	<i>CompXpress</i> [®]	<i>CMI Industrial</i> [®]
<i>STOCK LOCKS</i> [®]	<i>GEM</i> [®]	<i>Custom Marine</i> [®] <i>Stainless Exhaust</i>
<i>KeSet</i> [®]		<i>The #1 Choice in Performance</i>
<i>TuBar</i> [®]		<i>Boating</i> [®]
<i>StealthLock</i> [®]		<i>Mega Rim</i> [®]
<i>ACE</i> [®]		<i>Race Rim</i> [®]
<i>ACE</i> [®] <i>II</i>		<i>Vantage View</i> [®]
<i>CompX eLock</i> [®]		<i>GEN-X</i> [®]

Sales, marketing and distribution - A majority of CompX’s component sales are direct to large OEM customers through our factory-based sales and marketing professionals supported by engineers working in concert with field salespeople and independent manufacturer’s representatives. We select manufacturer’s representatives based on special skills in certain markets or relationships with current or potential customers.

In addition to sales to large OEM customers, a substantial portion of CompX’s Security Products sales are made through distributors. We have a significant North American market share of cabinet lock security product sales as a result of the locksmith distribution channel. We support our locksmith distributor sales with a line of standardized products used by the largest segments of the marketplace. These products are packaged and merchandised for easy availability and handling by distributors and end users.

CompX sells to a diverse customer base with only one customer representing 10% or more of its sales in 2019 (United States Postal Service representing 14%). CompX’s largest ten customers accounted for approximately 47% of its sales in 2019.

Competition - The markets in which CompX participates are highly competitive. We compete primarily on the basis of product design, including space utilization and aesthetic factors, product quality and durability, price, on-time delivery, service and technical support. We focus our efforts on the middle and high-end segments of the market, where product design, quality, durability and service are valued by the customer. CompX’s Security Products business competes against a number of domestic and foreign manufacturers. CompX’s Marine Components business competes with small domestic manufacturers and is minimally affected by foreign competitors.

Regulatory and environmental matters - CompX’s operations are subject to federal, state and local laws and regulations relating to the use, storage, handling, generation, transportation, treatment, emission, discharge, disposal, remediation of and exposure to hazardous and non-hazardous substances, materials and wastes (“Environmental Laws”). CompX’s operations also are subject to federal, state and local laws and regulations relating to worker health and safety. We believe we are in substantial compliance with all such laws and

regulations. To date, the costs of maintaining compliance with such laws and regulations have not significantly impacted our results. We currently do not anticipate any significant costs or expenses relating to such matters; however, it is possible future laws and regulations may require us to incur significant additional expenditures.

Employees - As of December 31, 2019, CompX employed 547 people, all in the United States. We believe our labor relations are good at all of our facilities.

CHEMICALS - KRONOS WORLDWIDE, INC.

Business overview - Kronos is a leading global producer and marketer of value-added titanium dioxide pigments, or TiO₂, a base industrial product used in a wide range of applications. Kronos, along with its distributors and agents, sells and provides technical services for its products to approximately 4,000 customers in 100 countries with the majority of sales in Europe, North America and the Asia Pacific region. We believe that Kronos has developed considerable expertise and efficiency in the manufacture, sale, shipment and service of its products in domestic and international markets.

TiO₂ is a white inorganic pigment used in a wide range of products for its exceptional durability and its ability to impart whiteness, brightness and opacity. TiO₂ is a critical component of everyday applications, such as coatings, plastics and paper, as well as many specialty products such as inks, food and cosmetics. TiO₂ is widely considered to be superior to alternative white pigments in large part due to its hiding power (or opacity), which is the ability to cover or mask other materials effectively and efficiently. TiO₂ is designed, marketed and sold based on specific end-use applications.

TiO₂ is the largest commercially used whitening pigment because it has a high refractive rating, giving it more hiding power than any other commercially produced white pigment. In addition, TiO₂ has excellent resistance to interaction with other chemicals, good thermal stability and resistance to ultraviolet degradation. Although there are other white pigments on the market, we believe there are no effective substitutes for TiO₂ because no other white pigment has the physical properties for achieving comparable opacity and brightness or can be incorporated in as cost-effective a manner. Pigment extenders such as kaolin clays, calcium carbonate and polymeric opacifiers are used together with TiO₂ in a number of end-use markets. However, these products are not able to duplicate the opacity performance characteristics of TiO₂ and we believe these products are unlikely to have a significant impact on the use of TiO₂.

TiO₂ is considered a “quality-of-life” product. Demand for TiO₂ has generally been driven by worldwide gross domestic product and has generally increased with rising standards of living in various regions of the world. According to industry estimates, TiO₂ consumption has grown at a compound annual growth rate of approximately 3% since 1990. Per capita consumption of TiO₂ in Western Europe and North America far exceeds that in other areas of the world, and these regions are expected to continue to be the largest consumers of TiO₂ on a per capita basis for the foreseeable future. We believe that Western Europe and North America currently each account for approximately 17% of global TiO₂ consumption. Markets for TiO₂ are generally increasing in South America, Eastern Europe, the Asia Pacific region and China and we believe these are significant markets where we expect continued growth as economies in these regions continue to develop and quality-of-life products, including TiO₂, experience greater demand.

Products and end-use markets – Kronos, including its predecessors, has produced and marketed TiO₂ in North America and Europe, its primary markets, for over 100 years. Kronos believes it is the largest producer of TiO₂ in Europe with 46% of its 2019 sales volumes attributable to markets in Europe. The table below shows Kronos’ market share for its significant markets, Europe and North America, for the last three years.

	<u>2017</u>	<u>2018</u>	<u>2019</u>
Europe	17%	13%	18%
North America	18%	17%	19%

Kronos believes it is the leading seller of TiO₂ in several countries, including Germany, with an estimated 9% share of worldwide TiO₂ sales volume in 2019. Overall, Kronos is one of the top five producers of TiO₂ in the world.

Kronos offers its customers a broad portfolio of products that include over 40 different TiO₂ pigment grades under the *KRONOS*[®] trademark, which provide a variety of performance properties to meet customers' specific requirements. Kronos' major customers include domestic and international paint, plastics, decorative laminate and paper manufacturers. Kronos ships TiO₂ to its customers in either a powder or slurry form via rail, truck and/or ocean carrier. Sales of Kronos' core TiO₂ pigments represented approximately 94% of its net sales in 2019. Kronos and its agents and distributors primarily sell products in three major end-use markets: coatings, plastics and paper.

The following tables show Kronos' approximate TiO₂ sales volume by geographic region and end use for the year ended December 31, 2019:

Sales volume percentages by geographic region		Sales volume percentages by end-use	
Europe	46%	Coatings	57%
North America	34%	Plastics	28%
Asia Pacific	10%	Paper	5%
Rest of World	10%	Other	10%

Some of the principal applications for Kronos' products include the following:

TiO₂ for coatings – Kronos' TiO₂ is used to provide opacity, durability, tinting strength and brightness in industrial coatings, as well as coatings for commercial and residential interiors and exteriors, automobiles, aircraft, machines, appliances, traffic paint and other special purpose coatings. The amount of TiO₂ used in coatings varies widely depending on the opacity, color and quality desired. In general, the higher the opacity requirement of the coating, the greater the TiO₂ content.

TiO₂ for plastics – Kronos produces TiO₂ pigments that improve the optical and physical properties of plastics, including whiteness and opacity. TiO₂ is used to provide opacity to items such as containers and packaging materials, and vinyl products such as windows, door profiles and siding. TiO₂ also generally provides hiding power, neutral undertone, brightness and surface durability for housewares, appliances, toys, computer cases and food packages. TiO₂'s high brightness along with its opacity, is used in some engineering plastics to help mask their undesirable natural color. TiO₂ is also used in masterbatch, which is a concentrate of TiO₂ and other additives and is one of the largest uses for TiO₂ in the plastics end-use market. In masterbatch, the TiO₂ is dispersed at high concentrations into a plastic resin and is then used by manufacturers of plastic containers, bottles, packaging and agricultural films.

TiO₂ for paper – Kronos' TiO₂ is used in the production of several types of paper, including laminate (decorative) paper, filled paper and coated paper to provide whiteness, brightness, opacity and color stability. Although Kronos sells its TiO₂ to all segments of the paper end-use market, its primary focus is on the TiO₂ grades used in paper laminates, where several layers of paper are laminated together using melamine resin under high temperature and pressure. The top layer of paper contains TiO₂ and plastic resin and is the layer that is printed with decorative patterns. Paper laminates are used to replace materials such as wood and tile for such applications as counter tops, furniture and wallboard. TiO₂ is beneficial in these applications because it assists in preventing the material from fading or changing color after prolonged exposure to sunlight and other weathering agents.

TiO₂ for other applications – Kronos produces TiO₂ to improve the opacity and hiding power of printing inks. TiO₂ allows inks to achieve very high print quality while not interfering with the technical requirements of printing machinery, including low abrasion, high printing speed and high temperatures. Kronos' TiO₂ is also used in textile applications where TiO₂ functions as an opacifying and delustering agent. In man-made fibers such as rayon and polyester, TiO₂ corrects an otherwise undesirable glossy and translucent appearance. Without the presence of TiO₂, these materials would be unsuitable for use in many textile applications.

Kronos produces high purity sulfate process anatase TiO₂ used to provide opacity, whiteness and brightness in a variety of cosmetic and personal care products, such as skin cream, lipstick, eye shadow and toothpaste. Kronos' TiO₂ is also found in food products, such as candy and confectionaries, and in pet foods where it is used to obtain uniformity of color and appearance. In pharmaceuticals, Kronos' TiO₂ is used commonly as a colorant in

tablet and capsule coatings as well as in liquid medicines to provide uniformity of color and appearance. KRONOS® purified anatase grades meet the applicable requirements of the CTFA (Cosmetics, Toiletries and Fragrances Association), USP and BP (United States Pharmacopoeia and British Pharmacopoeia) and the FDA (United States Food and Drug Administration).

Kronos' TiO₂ business is enhanced by the following three complementary businesses, which comprised approximately 6% of its net sales in 2019:

- Kronos owns and operates two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. Ilmenite is a raw material used directly as a feedstock by some sulfate-process TiO₂ plants. Kronos supplies ilmenite to its sulfate plants in Europe. Kronos also sells ilmenite ore to third parties, some of whom are its competitors, and it sells an ilmenite-based specialty product to the oil and gas industry. The mines have estimated ilmenite reserves that are expected to last at least 50 years.
- Kronos manufactures and sells iron-based chemicals, which are co-products and processed co-products of sulfate and chloride process TiO₂ pigment production. These co-product chemicals are marketed through its Ecochem division and are primarily used as treatment and conditioning agents for industrial effluents and municipal wastewater as well as in the manufacture of iron pigments, cement and agricultural products.
- Kronos manufactures and sells titanium oxychloride and titanyl sulfate, which are side-stream specialty products from the production of TiO₂. Titanium oxychloride is used in specialty applications in the formulation of pearlescent pigments, production of electroceramic capacitors for cell phones and other electronic devices. Titanyl sulfate products are used in pearlescent pigments, natural gas pipe and other specialty applications.

Manufacturing, operations and properties – Kronos produces TiO₂ in two crystalline forms: rutile and anatase. Rutile TiO₂ is manufactured using both a chloride production process and a sulfate production process, whereas anatase TiO₂ is only produced using a sulfate production process. Manufacturers of many end-use applications can use either form, especially during periods of tight supply for TiO₂. The chloride process is the preferred form for use in coatings and plastics, the two largest end-use markets. Due to environmental factors and customer considerations, the proportion of TiO₂ industry sales represented by chloride process pigments has remained stable relative to sulfate process pigments, and in 2019, chloride process production facilities represented approximately 45% of industry capacity. The sulfate process is preferred for use in selected paper products, ceramics, rubber tires, man-made fibers, food products, pharmaceuticals and cosmetics. Once an intermediate TiO₂ pigment has been produced by either the chloride or sulfate process, it is “finished” into products with specific performance characteristics for particular end-use applications through proprietary processes involving various chemical surface treatments and intensive micronizing (milling).

- *Chloride process* – The chloride process is a continuous process in which chlorine is used to extract rutile TiO₂. The chloride process produces less waste than the sulfate process because much of the chlorine is recycled and feedstock bearing higher titanium content is used. The chloride process also has lower energy requirements and is less labor-intensive than the sulfate process, although the chloride process requires a higher-skilled labor force. The chloride process produces an intermediate base pigment with a wide range of properties.
- *Sulfate process* – The sulfate process is a batch process in which sulfuric acid is used to extract the TiO₂ from ilmenite or titanium slag. After separation from the impurities in the ore (mainly iron), the TiO₂ is precipitated and calcined to form an intermediate base pigment ready for sale or can be upgraded through finishing treatments.

Kronos produced 546,000 metric tons of TiO₂ in 2019, up from the 536,000 metric tons it produced in 2018. Kronos' production volumes include its share of the output produced by its TiO₂ manufacturing joint venture discussed below in “TiO₂ manufacturing joint venture.” Kronos' average production capacity utilization rates were at full practical capacity in 2017, 95% in 2018 and 98% in 2019. Kronos' production rates in 2018 were impacted by maintenance activities at certain facilities and by the first quarter implementation of a productivity-enhancing improvement project at its Belgian facility.

Kronos operates facilities throughout North America and Europe, including the only sulfate process plant in North America and four TiO₂ plants in Europe (one in each of Leverkusen, Germany; Nordenham, Germany; Langerbrugge, Belgium; and Fredrikstad, Norway). In North America, Kronos has a TiO₂ plant in Varennes, Quebec, Canada and, through the manufacturing joint venture described below in “TiO₂ manufacturing joint venture,” a 50% interest in a TiO₂ plant near Lake Charles, Louisiana.

Kronos’ production capacity has increased by approximately 5% over the past ten years due to debottlenecking programs, incurring only moderate capital expenditures. Kronos expects to operate its TiO₂ plants at near full practical capacity levels in 2020.

The following table presents the division of Kronos’ expected 2020 manufacturing capacity by plant location and type of manufacturing process:

Facility	Description	% of capacity by TiO ₂ manufacturing process	
		Chloride	Sulfate
Leverkusen, Germany (1)	TiO ₂ production, chloride and sulfate process, co-products	31%	2%
Nordenham, Germany	TiO ₂ production, sulfate process, co-products	-	11
Langerbrugge, Belgium	TiO ₂ production, chloride process, co-products, titanium chemicals products	16	-
Fredrikstad, Norway (2)	TiO ₂ production, sulfate process, co-products	-	7
Varennes, Canada	TiO ₂ production, chloride and sulfate process, slurry facility, titanium chemicals products	16	3
Lake Charles, LA, US (3)	TiO ₂ production, chloride process	14	-
Total		<u>77%</u>	<u>23%</u>

- (1) The Leverkusen facility is located within an extensive manufacturing complex owned by Bayer AG. Kronos owns the Leverkusen facility, which represents about one-third of Kronos’ current TiO₂ production capacity, but Kronos leases the land under the facility from Bayer under a long-term agreement which expires in 2050. Lease payments are periodically negotiated with Bayer for periods of at least two years at a time. A majority-owned subsidiary of Bayer provides some raw materials including chlorine, auxiliary and operating materials, utilities and services necessary to operate the Leverkusen facility under separate supplies and services agreements. In conjunction with Kronos’ long-term strategy to increase chloride process production, in late 2019 Kronos decided to phase-out sulfate production at the Leverkusen facility by the end of 2020.
- (2) The Fredrikstad facility is located on public land and is leased until 2063.
- (3) Kronos operates the Lake Charles facility in a joint venture with Venator Investments LLC (Venator Investments), a wholly-owned subsidiary of Venator Group, of which Venator Materials PLC (Venator) owns 100% and the amount indicated in the table above represents the share of TiO₂ produced by the joint venture to which it is entitled. The joint venture owns the land and facility.

Kronos owns the land underlying all of its principal production facilities unless otherwise indicated in the table above.

Kronos also operates two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. In addition, Kronos operates a rutile slurry manufacturing plant near Lake Charles, Louisiana, which converts dry pigment primarily manufactured for Kronos at the Lake Charles TiO₂ facility into a slurry form that is then shipped to customers.

Kronos has corporate and administrative offices located in the U.S., Germany, Norway, Canada, Belgium, France and the United Kingdom and various sales offices located in North America.

TiO₂ manufacturing joint venture - Kronos Louisiana, Inc., one of Kronos' subsidiaries, and Venator Investments each own a 50% interest in a manufacturing joint venture, Louisiana Pigment Company, L.P. (LPC). LPC owns and operates a chloride-process TiO₂ plant located near Lake Charles, Louisiana. Kronos and Venator share production from the plant equally pursuant to separate offtake agreements, unless Kronos and Venator otherwise agree.

A supervisory committee directs the business and affairs of the joint venture, including production and output decisions. This committee is composed of four members, two of whom Kronos appoints and two of whom Venator appoints. Two general managers manage the operations of the joint venture acting under the direction of the supervisory committee. Kronos appoints one general manager and Venator appoints the other.

LPC is not consolidated in Kronos' financial statements because Kronos does not control it. Kronos accounts for its interest in the joint venture by the equity method. The joint venture operates on a break-even basis and therefore Kronos does not have any equity in earnings of the joint venture. Kronos is required to purchase one half of the TiO₂ produced by the joint venture. All costs and capital expenditures are shared equally with Venator with the exception of feedstock (purchased natural rutile ore or chlorine slag) and packaging costs for the pigment grades produced. Kronos' share of net costs is reported as cost of sales as the TiO₂ is sold.

Raw materials - The primary raw materials used in chloride process TiO₂ are titanium-containing feedstock (purchased natural rutile ore or chlorine slag), chlorine and coke. Chlorine is available from a number of suppliers, while petroleum coke is available from a limited number of suppliers. Titanium-containing feedstock suitable for use in the chloride process is available from a limited but increasing number of suppliers principally in Australia, South Africa, Canada, India and the United States. Kronos purchases chloride process grade slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract which automatically renewed at the end of 2018 and extends through December 31, 2020. The contract automatically renews bi-annually but can be terminated if written notice is given at least twelve months prior to the current contract end date. Kronos also purchases upgraded slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract that expires at the end of 2021. Kronos purchases rutile ore primarily from Sierra Rutile Limited under a contract that expires in 2022 and Base Titanium Limited under a contract that expires at the end of 2022. In the past Kronos has been, and it expects that it will continue to be, successful in obtaining short-term and long-term extensions to these and other existing supply contracts prior to their expiration. Kronos expects the raw materials purchased under these contracts, and contracts that it may enter into, will meet its chloride process feedstock requirements over the next several years.

The primary raw materials used in sulfate process TiO₂ are titanium-containing feedstock, primarily ilmenite or purchased sulfate grade slag and sulfuric acid. Sulfuric acid is available from a number of suppliers. Titanium-containing feedstock suitable for use in the sulfate process is available from a limited number of suppliers principally in Norway, Canada, Australia, India and South Africa. As one of the few vertically-integrated producers of sulfate process TiO₂, Kronos operates two rock ilmenite mines in Norway, which provided all of the feedstock for its European sulfate process TiO₂ plants in 2019. Kronos expects ilmenite production from its mines to meet its European sulfate process feedstock requirements for the foreseeable future. For Kronos' Canadian sulfate process plant, it purchases sulfate grade slag primarily from Rio Tinto Fer et Titane Inc. under a supply contract that renews annually, subject to termination upon twelve months written notice. Kronos expects the raw materials purchased under this contract, and contracts that it may enter into, to meet its sulfate process feedstock requirements over the next several years.

Many of Kronos' raw material contracts contain fixed quantities it is required to purchase, or specify a range of quantities within which it is required to purchase. The pricing under these agreements is generally negotiated quarterly or semi-annually.

The following table summarizes Kronos' raw materials purchased or mined in 2019.

<u>Production process/raw material</u>	<u>Raw materials procured or mined (In thousands of metric tons)</u>
Chloride process plants -	
Purchased slag or rutile ore	523
Sulfate process plants:	
Ilmenite ore mined and used internally	300
Purchased slag	24

Sales and marketing – Kronos' marketing strategy is aimed at developing and maintaining strong relationships with new and existing customers. Because TiO₂ represents a significant input cost for its customers, the purchasing decisions are often made by its customers' senior management. Kronos works to maintain close relationships with the key decision makers through in-depth and frequent in-person meetings. Kronos endeavors to extend these commercial and technical relationships to multiple levels within its customers' organizations using its direct sales force and technical service group to accomplish this objective. Kronos believes this has helped build customer loyalty to Kronos and strengthened its competitive position. Close cooperation and strong customer relationships enable Kronos to stay closely attuned to trends in its customers' businesses. Where appropriate, Kronos works in conjunction with its customers to solve formulation or application problems by modifying specific product properties or developing new pigment grades. Kronos also focuses its sales and marketing efforts on those geographic and end-use market segments where it believes it can realize higher selling prices. This focus includes continuously reviewing and optimizing its customer and product portfolios.

Kronos also works directly with its customers to monitor the success of its products in their end-use applications, evaluate the need for improvements in its product and process technology and identify opportunities to develop new product solutions for its customers. Kronos' marketing staff closely coordinates with its sales force and technical specialists to ensure the needs of its customers are met, and to help develop and commercialize new grades where appropriate.

Kronos sells a majority of its products through its direct sales force operating in Europe and North America. Kronos also utilizes sales agents and distributors who are authorized to sell its products in specific geographic areas. In Europe, Kronos' sales efforts are conducted primarily through its direct sales force and its sales agents. Kronos' agents do not sell any TiO₂ products other than KRONOS® brand products. In North America, Kronos' sales are made primarily through its direct sales force and supported by a network of distributors. In export markets, where Kronos has increased its marketing efforts over the last several years, Kronos' sales are made through its direct sales force, sales agents and distributors. In addition to Kronos' direct sales force and sales agents, many of its sales agents also act as distributors to service its customers in all regions. Kronos offers customer and technical service to customers who purchase its products through distributors as well as to its larger customers serviced by its direct sales force.

Kronos sells to a diverse customer base with only one customer representing 10% or more of its net sales in 2019 (Behr Process Corporation – 10%). Kronos' largest ten customers accounted for approximately 36% of net sales in 2019.

Neither Kronos' business as a whole nor any of its principal product groups is seasonal to any significant extent. However, TiO₂ sales are generally higher in the second and third quarters of the year, due in part to the increase in coatings production in the spring to meet demand during the spring and summer painting seasons. With certain exceptions, Kronos has historically operated its production facilities at near full capacity rates throughout the entire year, which among other things helps to minimize its per-unit production costs. As a result, Kronos normally will build inventories during the first and fourth quarters of each year in order to maximize its product availability during the higher demand periods normally experienced in the second and third quarters.

Competition - The TiO₂ industry is highly competitive. Kronos competes primarily on the basis of price, product quality, technical service and the availability of high performance pigment grades. Since TiO₂ is not a traded commodity, its pricing is largely a product of negotiation between suppliers and their respective customers. Price and availability are the most significant competitive factors along with quality and customer service for the majority of its product grades. Increasingly, Kronos is focused on providing pigments that are differentiated to meet specific customer requests and specialty grades that are differentiated from its competitors' products. During 2019, Kronos had an estimated 9% share of worldwide TiO₂ sales volume, and based on sales volume Kronos believes it is the leading seller of TiO₂ in several countries, including Germany.

Kronos' principal competitors are The Chemours Company, Tronox Incorporated, Lomon Billions and Venator Materials PLC. The top five TiO₂ producers (i.e. Kronos and its four principal competitors) account for approximately 52% of the world's production capacity.

The following chart shows Kronos' estimate of worldwide production capacity in 2019:

Worldwide production capacity – 2019	
Chemours	16%
Tronox	12%
Lomon Billions	9%
Venator	8%
Kronos	7%
Other	48%

Chemours has over one-half of total North American TiO₂ production capacity and is Kronos' principal North American competitor. In the second quarter of 2019, Tronox acquired certain of the TiO₂ assets of Cristal Global. In 2018, Lomon Billions announced construction plans for an additional 200,000 tons of chloride capacity, a portion of which came on line in 2019. The remainder is scheduled to come on line in 2020.

Over the past ten years, Kronos and its competitors increased industry capacity through debottlenecking projects, which in part compensated for the shut-down of various TiO₂ plants throughout the world. Although overall industry demand is expected to increase in 2020, Kronos does not expect any significant efforts will be undertaken by Kronos or its principal competitors to further increase capacity for the foreseeable future, other than through debottlenecking projects and the Lomon Billions expansion mentioned above. If actual developments differ from Kronos' expectations, the TiO₂ industry's and Kronos' performance could be unfavorably affected.

The TiO₂ industry is characterized by high barriers to entry consisting of high capital costs, proprietary technology and significant lead times required to construct new facilities or to expand existing capacity. Kronos believes it is unlikely any new TiO₂ plants will be constructed in Europe or North America in the foreseeable future.

Research and development - Kronos employs scientists, chemists, process engineers and technicians who are engaged in research and development, process technology and quality assurance activities in Leverkusen, Germany. These individuals have the responsibility for improving Kronos' chloride and sulfate production processes, improving product quality and strengthening Kronos' competitive position by developing new products and applications. Kronos' expenditures for these activities were approximately \$18 million in 2017, \$16 million in 2018 and \$17 million in 2019. Kronos expects to spend approximately \$17 million on research and development in 2020.

Kronos continually seeks to improve the quality of its grades and has been successful at developing new grades for existing and new applications to meet the needs of its customers and increase product life cycles. Since the beginning of 2015, Kronos has added ten new grades for pigments and other applications.

Patents, trademarks, trade secrets and other intellectual property rights - Kronos has a comprehensive intellectual property protection strategy that includes obtaining, maintaining and enforcing its patents, primarily in the United States, Canada and Europe. Kronos also protects its trademark and trade secret rights and has entered

into license agreements with third parties concerning various intellectual property matters. Kronos has also from time to time been involved in disputes over intellectual property.

Patents – Kronos has obtained patents and has numerous patent applications pending that cover its products and the technology used in the manufacture of its products. Kronos’ patent strategy is important to it and its continuing business activities. In addition to maintaining its patent portfolio, Kronos seeks patent protection for its technical developments, principally in the United States, Canada and Europe. U.S. patents are generally in effect for 20 years from the date of filing. Kronos’ U.S. patent portfolio includes patents having remaining terms ranging from four years to 20 years.

Trademarks and trade secrets – Kronos trademarks, including KRONOS®, are covered by issued and/or pending registrations, including in Canada and the United States. Kronos protects the trademarks that it uses in connection with the products it manufactures and sells and has developed goodwill in connection with its long-term use of its trademarks. Kronos conducts research activities in secret and it protects the confidentiality of its trade secrets through reasonable measures, including confidentiality agreements and security procedures, including data security. Kronos relies upon unpatented proprietary knowledge and continuing technological innovation and other trade secrets to develop and maintain its competitive position. Kronos’ proprietary chloride production process is an important part of its technology and Kronos’ business could be harmed if it fails to maintain confidentiality of its trade secrets used in this technology.

Employees - As of December 31, 2019, Kronos employed the following number of people:

Europe	1,805
Canada	340
United States (1)	<u>55</u>
Total	<u><u>2,200</u></u>

(1) Excludes employees of Kronos’ LPC joint venture.

Certain employees at each of Kronos’ production facilities are organized by labor unions. In Europe, Kronos’ union employees are covered by master collective bargaining agreements for the chemical industry that are generally renewed annually. In Canada, Kronos’ union employees are covered by a collective bargaining agreement that expires in June 2021. At December 31, 2019, approximately 86% of Kronos’ worldwide workforce is organized under collective bargaining agreements. It is possible that there could be future work stoppages or other labor disruptions that could materially and adversely affect its business, results of operations, financial position or liquidity.

Regulatory and environmental matters – Kronos’ operations and properties are governed by various environmental laws and regulations which are complex, change frequently and have tended to become stricter over time. These environmental laws govern, among other things, the generation, storage, handling, use and transportation of hazardous materials; the emission and discharge of hazardous materials into the ground, air or water; and the health and safety of its employees. Certain of Kronos’ operations are, or have been, engaged in the generation, storage, handling, manufacture or use of substances or compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of Kronos’ past and current operations and products have the potential to cause environmental or other damage. Kronos has implemented and continues to implement various policies and programs in an effort to minimize these risks. Kronos’ policy is to comply with applicable environmental laws and regulations at all its facilities and to strive to improve its environmental performance and overall sustainability. Kronos recently updated its Kronos Sustainability Report (available on Kronos’ website at www.kronostio2.com), which highlights Kronos’ focus on sustainability of its manufacturing operations, as well as Kronos’ environmental, social and governance strategy. It is possible that future developments, such as stricter requirements in environmental laws and enforcement policies, could adversely affect its operations, including production, handling, use, storage, transportation, sale or disposal of hazardous or toxic substances or require Kronos to make capital and other expenditures to comply, and could adversely affect its consolidated financial position and results of operations or liquidity.

Kronos' U.S. manufacturing operations are governed by federal, state and local environmental and worker health and safety laws and regulations. These include the Resource Conservation and Recovery Act, or RCRA, the Occupational Safety and Health Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act and the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, or CERCLA, as well as the state counterparts of these statutes. Some of these laws hold current or previous owners or operators of real property liable for the costs of cleaning up contamination, even if these owners or operators did not know of, and were not responsible for, such contamination. These laws also assess liability on any person who arranges for the disposal or treatment of hazardous substances, regardless of whether the affected site is owned or operated by such person. Although Kronos has not incurred and does not currently anticipate any material liabilities in connection with such environmental laws, Kronos may be required to make expenditures for environmental remediation in the future.

While the laws regulating operations of industrial facilities in Europe vary from country to country, a common regulatory framework is provided by the European Union, or the EU. Germany and Belgium are members of the EU and follow its initiatives. Norway is not a member but generally patterns its environmental regulatory actions after those of the EU.

At Kronos' sulfate plant facilities in Germany, it recycles spent sulfuric acid either through contracts with third parties or at its own facilities. In addition, at Kronos' German locations it has a contract with a third-party to treat certain sulfate-process effluents. At Kronos' Norwegian plant, Kronos ships spent acid to a third-party location where it is used as a neutralization agent. These contracts may be terminated by either party after giving three or four years advance notice, depending on the contract.

From time to time, Kronos' facilities may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes. Typically Kronos establishes compliance programs to resolve these matters. Occasionally, Kronos may pay penalties. To date such penalties have not involved amounts having a material adverse effect on Kronos' consolidated financial position, results of operations or liquidity. Kronos believes that all of its facilities are in substantial compliance with applicable environmental laws.

From time to time, new environmental, health and safety regulations are passed or proposed in the countries in which Kronos operates or sells its products, seeking to regulate its operations or to restrict, limit or classify TiO₂. Kronos believes that it is in substantial compliance with laws applicable to the regulation of TiO₂. However, increased regulatory scrutiny could affect consumer perception of TiO₂ or limit the marketability and demand for TiO₂ or products containing TiO₂ and increase its regulatory and compliance costs.

On February 18, 2020 the European Union published a regulation classifying TiO₂ powder and powder mixtures containing TiO₂ as a suspected carcinogen via inhalation under its EU Regulation No. 1272/2008 on classification, labeling and packing of substances and mixtures. The regulation will enter into force on October 1, 2021 at which time hazard labels will be required on certain TiO₂ powder products and certain powder mixtures containing TiO₂ in the EU.

This classification of TiO₂ is based on scientifically questioned animal test data. Separate studies of TiO₂ workers conducted by the TiO₂ industry have shown no TiO₂ specific links to cancer. Kronos intends to comply with the new requirements including working with customers and other stakeholders on compliance matters as appropriate.

Kronos' capital expenditures related to ongoing environmental compliance, protection and improvement programs, including capital expenditures which are primarily focused on increasing operating efficiency but also result in improved environmental protection such as lower emissions from its manufacturing facilities, were \$20.0 million in 2019 and are currently expected to be approximately \$25 million in 2020.

Other

In addition to our 86% ownership of CompX and our 30% ownership of Kronos at December 31, 2019, we also own 100% of EWI RE, Inc., an insurance brokerage and risk management services company. In the fourth quarter of 2019, we sold the insurance and risk management business of EWI for proceeds of \$3.25 million and

recognized a gain of \$3.0 million. We also hold certain marketable securities and other investments. See Notes 13 and 16 to our Consolidated Financial Statements.

Regulatory and environmental matters - We discuss regulatory and environmental matters in the respective business sections contained elsewhere herein and in Item 3 - "Legal Proceedings." In addition, the information included in Note 17 to our Consolidated Financial Statements under the captions "Lead pigment litigation" and "Environmental matters and litigation" is incorporated herein by reference.

Insurance - We maintain insurance for our businesses and operations, with customary levels of coverage, deductibles and limits. See also Item 3 - "Legal Proceedings - Insurance coverage claims" and Note 17 to our Consolidated Financial Statements.

Business strategy - We routinely compare our liquidity requirements and alternative uses of capital against the estimated future cash flows we expect to receive from our subsidiaries and affiliates. As a result of this process, we have in the past and may in the future seek to raise additional capital, incur debt, repurchase indebtedness in the market, modify our dividend policies, consider the sale of our interests in our subsidiaries, affiliates, business, marketable securities or other assets, or take a combination of these and other steps, to increase liquidity, reduce indebtedness and fund future activities. Such activities have in the past and may in the future involve related companies. From time to time, we also evaluate the restructuring of ownership interests among our respective subsidiaries and related companies.

We and other entities that may be affiliated with Contran routinely evaluate acquisitions of interests in, or combinations with, companies, including related companies, perceived by management to be undervalued in the marketplace. These companies may or may not be engaged in businesses related to our current businesses. In some instances, we have actively managed the businesses acquired with a focus on maximizing return-on-investment through cost reductions, capital expenditures, improved operating efficiencies, selective marketing to address market niches, disposition of marginal operations, use of leverage and redeployment of capital to more productive assets. In other instances, we have disposed of the acquired interest in a company prior to gaining control. We intend to consider such activities in the future and may, in connection with such activities, consider issuing additional equity securities and increasing our indebtedness.

Available information - Our fiscal year ends December 31. We furnish our shareholders with annual reports containing audited financial statements. In addition, we file annual, quarterly and current reports, proxy and information statements and other information with the SEC. Our consolidated subsidiary (CompX) and our significant equity method investee (Kronos) also file annual, quarterly, and current reports, proxy and information statements and other information with the SEC. We also make our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments thereto available free of charge through our website at www.nl-ind.com as soon as reasonably practicable after they have been filed with the SEC. We also provide to anyone, without charge, copies of such documents upon written request. Such requests should be directed to the attention of the Corporate Secretary at our address on the cover page of this Form 10-K. Additional information, including our Audit Committee charter, our Code of Business Conduct and Ethics and our Corporate Governance Guidelines can be found on our website. Information contained on our website is not part of this Annual Report.

We are an electronic filer and the SEC maintains an internet website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

ITEM 1A. RISK FACTORS

Listed below are certain risk factors associated with us and our businesses. See also certain risk factors discussed in Item 7 – “*Management’s Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Estimates.*” In addition to the potential effect of these risk factors, any risk factor which could result in reduced earnings or operating losses, or reduced liquidity, could in turn adversely affect our ability to service our liabilities or pay dividends on our common stock or adversely affect the quoted market prices for our securities.

We could incur significant costs related to legal and environmental matters.

We formerly manufactured lead pigments for use in paint. We and others have been named as defendants in various legal proceedings seeking damages for personal injury, property damage and governmental expenditures allegedly caused by the use of lead-based paints. These lawsuits seek recovery under a variety of theories, including public and private nuisance, negligent product design, negligent failure to warn, strict liability, breach of warranty, conspiracy/concert of action, aiding and abetting, enterprise liability, market share or risk contribution liability, intentional tort, fraud and misrepresentation, violations of state consumer protection statutes, supplier negligence and similar claims. The plaintiffs in these actions generally seek to impose on the defendants responsibility for lead paint abatement and health concerns associated with the use of lead-based paints, including damages for personal injury, contribution and/or indemnification for medical expenses, medical monitoring expenses and costs for educational programs. We entered into a legal settlement in one public-nuisance lead pigment case and have recognized a material liability related to the settlement. Any additional liability we might incur in the future for these matters could be material. See also Item 3 - “Legal Proceedings - Lead pigment litigation.”

Certain properties and facilities used in our former operations are the subject of litigation, administrative proceedings or investigations arising under various environmental laws. These proceedings seek cleanup costs, personal injury or property damages and/or damages for injury to natural resources. Some of these proceedings involve claims for substantial amounts. Environmental obligations are difficult to assess and estimate for numerous reasons, and we may incur costs for environmental remediation in the future in excess of amounts currently estimated. Any liability we might incur in the future could be material. See also Item 3 - “Legal Proceedings - Environmental matters and litigation.”

Our assets consist primarily of investments in our operating subsidiaries and affiliates, and we are dependent upon distributions from our subsidiaries and affiliates.

The majority of our operating cash flows are generated by our operating subsidiaries and affiliates, and our ability to service liabilities and to pay dividends on our common stock (to the extent such dividends are declared by our board of directors) depends to a large extent upon the cash dividends or other distributions we receive from our subsidiaries and affiliates. Our subsidiaries and affiliates are separate and distinct legal entities and they have no obligation, contingent or otherwise, to pay such cash dividends or other distributions to us. In addition, the payment of dividends or other distributions from our subsidiaries and affiliates could be subject to restrictions under applicable law, monetary transfer restrictions, currency exchange regulations in jurisdictions in which our subsidiaries and affiliates operate or any other restrictions imposed by current or future agreements to which our subsidiaries and affiliates may be a party, including debt instruments. Events beyond our control, including changes in general business and economic conditions, could adversely impact the ability of our subsidiaries and affiliates to pay dividends or make other distributions to us. If our subsidiaries and affiliates were to become unable to make sufficient cash dividends or other distributions to us, our ability to service our liabilities and to pay dividends on our common stock (if declared) could be adversely affected.

In addition, a significant portion of our assets consist of ownership interests in our subsidiaries and affiliates. If we were required to liquidate any of such securities in order to generate funds to satisfy our liabilities, we may be required to sell such securities at a time or times at which we would not be able to realize what we believe to be the actual value of such assets.

We operate in mature and highly competitive markets, resulting in pricing pressure and the need to continuously reduce costs.

Many of the markets CompX serves are highly competitive, with a number of competitors offering similar products. We focus our efforts on the middle and high-end segment of the market where we feel that we can compete due to the importance of product design, quality and durability to the customer. However, CompX's ability to effectively compete is impacted by a number of factors. The occurrence of any of these factors could result in reduced earnings or operating losses.

- Competitors may be able to drive down prices for our products beyond our ability to adjust costs because their costs are lower than ours, especially products sourced from Asia.
- Competitors' financial, technological and other resources may be greater than our resources, which may enable them to more effectively withstand changes in market conditions.
- Competitors may be able to respond more quickly than we can to new or emerging technologies and changes in customer requirements.
- Consolidation of our competitors or customers in any of the markets in which we compete may result in reduced demand for our products.
- A reduction of our market share with one or more of our key customers, or a reduction in one or more of our key customers' market share for their end-use products, may reduce demand for our products.
- New competitors could emerge by modifying their existing production facilities to manufacture products that compete with our products.
- We may not be able to sustain a cost structure that enables us to be competitive.
- Customers may no longer value our product design, quality or durability over the lower cost products of our competitors.

Our development of innovative features for current products is critical to sustaining and growing our sales.

Historically, CompX's ability to provide value-added custom engineered products that address requirements of technology and space utilization has been a key element of our success. We spend a significant amount of time and effort to refine, improve and adapt our existing products for new customers and applications. Since expenditures for these types of activities are not considered research and development expense under accounting principles generally accepted in the United States of America ("GAAP"), the amount of our research and development expenditures, which is not significant, is not indicative of the overall effort involved in the development of new product features. The introduction of new product features requires the coordination of the design, manufacturing and marketing of the new product features with current and potential customers. The ability to coordinate these activities with current and potential customers may be affected by factors beyond our control. While we will continue to emphasize the introduction of innovative new product features that target customer-specific opportunities, we do not know if any new product features we introduce will achieve the same degree of success that we have achieved with our existing products. Introduction of new product features typically requires us to increase production volume on a timely basis while maintaining product quality. Manufacturers often encounter difficulties in increasing production volumes, including delays, quality control problems and shortages of qualified personnel or raw materials. As we attempt to introduce new product features in the future, we do not know if we will be able to increase production volumes without encountering these or other problems, which might negatively impact our financial condition or results of operations.

Failure to protect our intellectual property rights or claims by others that we infringe their intellectual property rights could substantially harm our business.

CompX relies on patent, trademark and trade secret laws in the United States and similar laws in other countries to establish and maintain our intellectual property rights in our technology and designs. Despite these measures, any of our intellectual property rights could be challenged, invalidated, circumvented or misappropriated. Others may independently discover our trade secrets and proprietary information, and in such cases we could not

assert any trade secret rights against such parties. Further, we do not know if any of our pending trademark or patent applications will be approved. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our intellectual property rights. In addition, the laws of certain countries do not protect intellectual property rights to the same extent as the laws of the United States. Therefore, in certain jurisdictions, we may be unable to protect our technology and designs adequately against unauthorized third party use, which could adversely affect our competitive position.

Third parties may claim that we or our customers are infringing upon their intellectual property rights. Even if we believe that such claims are without merit, they can be time-consuming and costly to defend and distract our management's and technical staff's attention and resources. Claims of intellectual property infringement also might require us to redesign affected technology, enter into costly settlement or license agreements or pay costly damage awards, or face a temporary or permanent injunction prohibiting us from marketing or selling certain of our technology. If we cannot or do not license the infringed technology on reasonable pricing terms or at all, or substitute similar technology from another source, our business could be adversely impacted.

Higher costs or unavailability of our raw materials could negatively impact our financial results.

Certain raw materials used in CompX's products are commodities that are subject to significant fluctuations in price in response to world-wide supply and demand as well as speculative investor activity. Zinc and brass are the principal raw materials used in the manufacture of security products. Stainless steel and aluminum are the major raw materials used in the manufacture of marine components. These raw materials are purchased from several suppliers and are generally readily available from numerous sources. CompX occasionally enters into short-term raw material supply arrangements to mitigate the impact of future increases in commodity-related raw material costs. Materials purchased outside of these arrangements are sometimes subject to unanticipated and sudden price increases.

Certain components used in CompX's products are manufactured by foreign suppliers located in China and elsewhere. Global economic and political conditions, including natural disasters, terrorist acts, global conflicts and public health crises such as the coronavirus, could prevent CompX's vendors from being able to supply these components.

Should CompX's vendors not be able to meet their supply obligations or should CompX be otherwise unable to obtain necessary raw materials or components, CompX may incur higher supply costs or may be required to reduce production levels, either of which may decrease its liquidity or negatively impact its financial condition or results of operations as CompX may be unable to offset the higher costs with increases in its selling prices or reductions in other operating costs.

Higher costs or limited availability of our raw materials may reduce our earnings and decrease our liquidity. In addition, many of our raw material contracts contain fixed quantities we are required to purchase.

For Kronos, the number of sources for and availability of certain raw materials is specific to the particular geographical region in which a facility is located. For example, titanium-containing feedstocks suitable for use in Kronos' TiO₂ facilities are available from a limited number of suppliers around the world. Political and economic instability in the countries from which Kronos purchases its raw materials could adversely affect their availability. If Kronos' worldwide vendors were unable to meet their contractual obligations and it were unable to obtain necessary raw materials, Kronos could incur higher costs for raw materials or may be required to reduce production levels. Kronos experienced increases in its feedstock costs in 2018 and 2019, and Kronos expects its feedstock costs to continue to increase in the first half of 2020 before moderating slightly in the second half of 2020. Kronos may also experience higher operating costs such as energy costs, which could affect its profitability. Kronos may not always be able to increase its selling prices to offset the impact of any higher costs or reduced production levels, which could reduce its earnings and decrease its liquidity.

Kronos has long-term supply contracts that provide for its TiO₂ feedstock requirements that currently expire through 2022. While Kronos believes it will be able to renew these contracts, there can be no assurance it will be successful in renewing them or in obtaining long-term extensions to them prior to expiration. Kronos' current agreements (including those entered into through February 2020) require it to purchase certain minimum quantities of feedstock with minimum purchase commitments aggregating approximately \$897 million beginning in

2020. In addition, Kronos has other long-term supply and service contracts that provide for various raw materials and services. These agreements require Kronos to purchase certain minimum quantities or services with minimum purchase commitments aggregating approximately \$74 million at December 31, 2019. Kronos' commitments under these contracts could adversely affect its financial results if it significantly reduces its production and was unable to modify the contractual commitments.

Demand for, and prices of, certain of Kronos' products are influenced by changing market conditions for its products, which may result in reduced earnings or in operating losses.

Kronos' sales and profitability are largely dependent on the TiO₂ industry. In 2019, 94% of Kronos' sales were attributable to sales of TiO₂. TiO₂ is used in many "quality of life" products for which demand historically has been linked to global, regional and local gross domestic product and discretionary spending, which can be negatively impacted by regional and world events or economic conditions. Such events are likely to cause a decrease in demand for our products and, as a result, may have an adverse effect on our results of operations and financial condition.

Pricing within the global TiO₂ industry over the long term is cyclical and changes in economic conditions, worldwide, can significantly impact Kronos' earnings and operating cash flows. Historically, the markets for many of Kronos' products have experienced alternating periods of increasing and decreasing demand. Relative changes in the selling prices for Kronos' products are one of the main factors that affect the level of its profitability. In periods of increasing demand, Kronos' selling prices and profit margins generally will tend to increase, while in periods of decreasing demand Kronos' selling prices and profit margins generally tend to decrease. In addition, pricing may affect customer inventory levels as customers may from time to time accelerate purchases of TiO₂ in advance of anticipated price increases or defer purchases of TiO₂ in advance of anticipated price decreases. Kronos' ability to further increase capacity without additional investment in greenfield or brownfield capacity may be limited and as a result, Kronos' profitability may become even more dependent upon the selling prices of Kronos' products.

The TiO₂ industry is concentrated and highly competitive and Kronos faces price pressures in the markets in which it operates, which may result in reduced earnings or operating losses.

The global market in which Kronos operates its business is concentrated, with the top five TiO₂ producers accounting for approximately 52% of the world's production capacity, and is highly competitive. Competition is based on a number of factors, such as price, product quality and service. Some of Kronos' competitors may be able to drive down prices for its products if their costs are lower than its costs. In addition, some of Kronos' competitors' financial, technological and other resources may be greater than its resources and such competitors may be better able to withstand changes in market conditions. Kronos' competitors may be able to respond more quickly than it can to new or emerging technologies and changes in customer requirements. Further, consolidation of Kronos' competitors or customers may result in reduced demand for its products or make it more difficult for Kronos to compete with its competitors. The occurrence of any of these events could result in reduced earnings or operating losses.

Kronos' leverage may impair our financial condition.

As of December 31, 2019, Kronos' total consolidated debt was approximately \$445.5 million, substantially all of which relates to its Senior Secured Notes issued in September 2017. Kronos' level of debt could have important consequences to its stockholders and creditors, including:

- making it more difficult for Kronos to satisfy its obligations with respect to its liabilities;
- increasing its vulnerability to adverse general economic and industry conditions;
- requiring that a portion of its cash flows from operations be used for the payment of interest on its debt, which reduces its ability to use its cash flow to fund working capital, capital expenditures, dividends on its common stock, acquisitions or general corporate requirements;
- limiting the ability of Kronos' subsidiaries to pay dividends to it;

- limiting Kronos' ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or general corporate requirements;
- limiting Kronos' flexibility in planning for, or reacting to, changes in its business and the industry in which it operates; and
- placing Kronos at a competitive disadvantage relative to other less leveraged competitors.

Indebtedness outstanding under Kronos' revolving North American credit facility and revolving European credit facility accrues interest at variable rates. To the extent market interest rates rise, the cost of Kronos' debt would increase, adversely affecting its financial condition, results of operations and cash flows.

In addition to Kronos' indebtedness, Kronos is party to various lease and other agreements (including feedstock ore purchase contracts and other long-term supply and service contracts, as discussed above) pursuant to which, along with its indebtedness, Kronos is committed to pay approximately \$581 million in 2020. Kronos' ability to make payments on and refinance its debt and to fund planned capital expenditures depends on its future ability to generate cash flow. To some extent, this is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond its control. In addition, Kronos' ability to borrow funds under its revolving credit facilities in the future will, in some instances, depend in part on its ability to maintain specified financial ratios and satisfy certain financial covenants contained in the applicable credit agreement.

Kronos' business may not generate cash flows from operating activities sufficient to enable it to pay its debts when they become due and to fund its other liquidity needs. As a result, Kronos may need to refinance all or a portion of its debt before maturity. Kronos may not be able to refinance any of its debt in a timely manner on favorable terms, if at all, in the current credit markets. Any inability to generate sufficient cash flows or to refinance its debt on favorable terms could have a material adverse effect on its financial condition and impact its ability to pay a dividend to us.

Environmental, health and safety laws and regulations, particularly as it relates to Kronos, may result in increased regulatory scrutiny which could decrease demand for Kronos' products, increase Kronos' manufacturing and compliance costs or obligations and result in unanticipated losses which could negatively impact its financial results or limit its ability to operate its business.

From time to time, new environmental, health and safety regulations are passed or proposed in the countries in which Kronos operates or sells its products, seeking to regulate its operations or to restrict, limit or classify TiO₂, or its use (such as the classification of TiO₂ powder as a suspected carcinogen in the EU). Increased regulatory scrutiny could affect consumer perception of TiO₂ or limit the marketability and demand for TiO₂ or products containing TiO₂ and increase Kronos' manufacturing and regulatory compliance obligations and costs. Increased compliance obligations and costs or restrictions on certain TiO₂ applications could negatively impact Kronos' future financial results through increased costs of production, or reduced sales which may decrease its liquidity, operating income and results of operations.

Global climate change legislation could negatively impact our financial results or limit our ability to operate our businesses.

CompX operates production facilities in the United States and Kronos operates production facilities in several countries in North America and Europe. We believe that all production facilities are in substantial compliance with applicable environmental laws. Legislation has been passed, or proposed legislation is being considered, to limit greenhouse gases through various means including emissions permits and/or energy taxes. In several production facilities, Kronos consumes large amounts of energy, primarily electricity and natural gas. To date the climate change legislation in effect has not had a material adverse effect on our financial results. However, if further greenhouse gas legislation were to be enacted in one or more countries, it could negatively impact our future results from operations through increased costs of production, particularly as it relates to our energy requirements or our need to obtain emissions permits. If such increased costs of production were to materialize, we may be unable to pass on price increases to our customers to compensate for increased production costs, which may decrease our liquidity, income from operations and results of operations.

Technology failures or cyber security breaches could have a material adverse effect on our operations.

We rely on integrated information technology systems to manage, process and analyze data, including to facilitate the manufacture and distribution of our products to and from our plants, receive, process and ship orders, manage the billing of and collections from our customers and manage payments to our vendors. Although we have systems and procedures in place to protect our information technology systems, there can be no assurance that such systems and procedures would be sufficiently effective. Therefore, any of our information technology systems may be susceptible to outages, disruptions or destruction as well as cyber security breaches or attacks, resulting in a disruption of our business operations, injury to people, harm to the environment or our assets, and/or the inability to access our information technology systems. If any of these events were to occur, our results of operations and financial condition could be adversely affected.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None

ITEM 2. PROPERTIES

Our principal executive offices are located in an office building located at 5430 LBJ Freeway, Dallas, Texas, 75240-2620. The principal properties used in the operations of our subsidiaries and affiliates, including certain risks and uncertainties related thereto, are described in the applicable business sections of Item 1 – “Business.” We believe that our facilities are generally adequate and suitable for our respective uses.

ITEM 3. LEGAL PROCEEDINGS

We are involved in various legal proceedings. In addition to information that is included below, we have included certain of the information required for this Item in Note 17 to our Consolidated Financial Statements, and we are incorporating that information here by reference.

Lead pigment litigation

Our former operations included the manufacture of lead pigments for use in paint and lead-based paint. We, other former manufacturers of lead pigments for use in paint and lead-based paint (together, the “former pigment manufacturers”), and the Lead Industries Association (LIA), which discontinued business operations in 2002, have been named as defendants in various legal proceedings seeking damages for personal injury, property damage and governmental expenditures allegedly caused by the use of lead-based paints. Certain of these actions have been filed by or on behalf of states, counties, cities or their public housing authorities and school districts, and certain others have been asserted as class actions. These lawsuits seek recovery under a variety of theories, including public and private nuisance, negligent product design, negligent failure to warn, strict liability, breach of warranty, conspiracy/concert of action, aiding and abetting, enterprise liability, market share or risk contribution liability, intentional tort, fraud and misrepresentation, violations of state consumer protection statutes, supplier negligence and similar claims.

The plaintiffs in these actions generally seek to impose on the defendants responsibility for lead paint abatement and health concerns associated with the use of lead-based paints, including damages for personal injury, contribution and/or indemnification for medical expenses, medical monitoring expenses and costs for educational programs. To the extent the plaintiffs seek compensatory or punitive damages in these actions, such damages are generally unspecified. In some cases, the damages are unspecified pursuant to the requirements of applicable state law. A number of cases are inactive or have been dismissed or withdrawn. Most of the remaining cases are in various pre-trial stages. Some are on appeal following dismissal or summary judgment rulings or a trial verdict in favor of either the defendants or the plaintiffs.

We believe that these actions are without merit, and we intend to continue to deny all allegations of wrongdoing and liability and to defend against all actions vigorously. Other than with respect to the Santa Clara, California public nuisance case discussed below, we do not believe it is probable that we have incurred any liability with respect to all of the lead pigment litigation cases to which we are a party, and with respect to all such lead pigment litigation cases to which we are a party, other than with respect to the Santa Clara case discussed below, we believe liability to us that may result, if any, in this regard cannot be reasonably estimated, because:

- we have never settled any of the market share, intentional tort, fraud, nuisance, supplier negligence, breach of warranty, conspiracy, misrepresentation, aiding and abetting, enterprise liability, or statutory cases (other than the Santa Clara case discussed below),
- no final, non-appealable adverse judgements have ever been entered against us, and
- we have never ultimately been found liable with respect to any such litigation matters, including over 100 cases over a thirty-year period for which we were previously a party and for which we have been dismissed without any finding of liability.

Accordingly, other than with respect to the Santa Clara case discussed below, we have not accrued any amounts for any of the pending lead pigment and lead-based paint litigation cases filed by or on behalf of states, counties, cities or their public housing authorities and school districts, or those asserted as class actions. In addition, we have determined that liability to us which may result, if any, cannot be reasonably estimated at this time because there is no prior history of a loss of this nature on which an estimate could be made and there is no substantive information available upon which an estimate could be based.

In the matter titled *County of Santa Clara v. Atlantic Richfield Company, et al.* (Superior Court of the State of California, County of Santa Clara, Case No. 1-00-CV-788657) on July 24, 2019, an order approving a global settlement agreement entered into among all of the plaintiffs and the three defendants remaining in the case (the Sherwin Williams Company, ConAgra Grocery Products and us) was entered by the court and the case was dismissed with prejudice. The global settlement agreement provides that an aggregate \$305 million will be paid collectively by the three co-defendants in full satisfaction of all claims resulting in a dismissal of the case with prejudice and the resolution of (i) all pending and future claims by the plaintiffs in the case, and (ii) all potential claims for contribution or indemnity between us and our co-defendants in respect to the case. In the agreement, we expressly deny any and all liability and the dismissal of the case with prejudice was entered by the court without a final judgment of liability entered against us. The settlement agreement fully concludes this matter.

Under the terms of the global settlement agreement, each defendant must pay an aggregate \$101.7 million to the plaintiffs as follows: \$25.0 million within sixty days of the court's approval of the settlement and dismissal of the case, and the remaining \$76.7 million in six annual installments beginning on the first anniversary of the initial payment (\$12.0 million for the first five installments and \$16.7 million for the sixth installment). Our sixth installment will be made with funds already on deposit at the court that are committed to the settlement, including all accrued interest at the date of payment, with any remaining balance to be paid by us (and any amounts on deposit in excess of the final payment would be returned to us).

As previously disclosed during the second quarter of 2018 and based on the terms of a May 2018 settlement agreement between us and the plaintiffs which had an aggregate cost of \$80 million to us, we determined that the loss to us could be reasonably estimated and recognized a net \$62 million pre-tax charge with respect to this matter (\$45 million for the amount to be paid by us upon approval of the terms of the settlement and \$17 million for the net present value of the five payments aggregating \$20 million to be paid by us in installments beginning four years from such approval). The May 2018 settlement was never approved by the court and was superseded in July 2019 by the global settlement agreement discussed above.

At June 30, 2019, based on the terms of the global settlement agreement approved by the court in July 2019 we increased the amount accrued for the litigation settlement and a final immaterial adjustment was made to the litigation settlement accrual in the third quarter of 2019. For financial reporting purposes, using a discount rate of 1.9% per annum, we discounted the aggregate \$101.7 million settlement to the estimated net present value of \$96.3 million. We recognized litigation settlement expense of \$19.3 million (\$19.6 million expense in the second quarter of 2019 and \$.3 million credit in the third quarter of 2019). We made the initial \$25.0 million payment in September 2019 and recognized an aggregate of \$.6 million in accretion expense in the second half of 2019.

For purposes of our Consolidated Balance Sheet at December 31, 2019, we have recognized the net present value of the \$12.0 million payment due in 2020, \$11.8 million, as a current liability and the net present value of the five remaining annual installments, \$60.1 million, as a noncurrent liability. Under the terms of the settlement, we reclassified the \$15.6 million on deposit at the court from an accrued insurance receivable to noncurrent restricted cash during the third quarter. Pursuant to the settlement agreement, also during the third quarter of 2019 we placed an additional \$9.0 million into an escrow account which is included in noncurrent restricted cash on our Consolidated Balance Sheet.

In June 2000, a complaint was filed in Illinois state court, *Lewis, et al. v. Lead Industries Association, et al* (Circuit Court of Cook County, Illinois, County Department, Chancery Division, Case No. 00CH09800.) Plaintiffs seek to represent two classes, one consisting of minors between the ages of six months and six years who resided in housing in Illinois built before 1978, and another consisting of individuals between the ages of six and twenty years who lived in Illinois housing built before 1978 when they were between the ages of six months and six years and who had blood lead levels of 10 micrograms/deciliter or more. The complaint seeks damages jointly and severally from the former pigment manufacturers and the LIA to establish a medical screening fund for the first class to determine blood lead levels, a medical monitoring fund for the second class to detect the onset of latent diseases and a fund for a public education campaign. In April 2008, the trial court judge certified a class of children whose blood lead levels were screened venously between August 1995 and February 2008 and who had incurred expenses associated with such screening. In March 2012, the trial court judge decertified the class. In June 2012, the trial court judge granted plaintiffs the right to appeal his decertification order, and in August 2012 the appellate court granted plaintiffs permission to appeal. In March 2013, the appellate court agreed with the trial court's rationale regarding legislative requirements to screen children's blood lead levels and remanded the case for further proceedings in the trial court. In July 2013, plaintiffs moved to vacate the decertification. In October 2013, the judge denied plaintiffs' motion to vacate the decertification of the class. In March 2014, plaintiffs filed a new class certification motion. In April 2015, a class was certified consisting of parents or legal guardians of children who lived in certain "high risk" areas in Illinois between August 18, 1995 and February 19, 2008, and incurred an expense or liability for having their children's blood lead levels tested. In January 2019, the Illinois Supreme Court agreed to hear an interlocutory appeal addressing whether certain parents whose children's lead testing costs were fully paid by Medicaid fell within the certified class of persons who had incurred an expense for such testing. A favorable resolution of that issue could result in a reduction in the number of persons in the certified class.

In November 2018, NL was served with two complaints filed by county governments in Pennsylvania. Each county alleges that NL and several other defendants created a public nuisance by selling and promoting lead-containing paints and pigments in the counties. The plaintiffs seek abatement and declaratory relief. We believe these lawsuits are inconsistent with Pennsylvania law and without merit, and we intend to defend ourselves vigorously.

New cases may continue to be filed against us. We cannot assure you that we will not incur liability in the future in respect of any of the pending or possible litigation in view of the inherent uncertainties involved in court and jury rulings. In the future, if new information regarding such matters becomes available to us (such as a final, non-appealable adverse verdict against us or otherwise ultimately being found liable with respect to such matters), at that time we would consider such information in evaluating any remaining cases then-pending against us as to whether it might then have become probable we have incurred liability with respect to these matters, and whether such liability, if any, could have become reasonably estimable. The resolution of any of these cases could result in the recognition of a loss contingency accrual that could have a material adverse impact on our net income for the interim or annual period during which such liability is recognized and a material adverse impact on our consolidated financial condition and liquidity.

Environmental matters and litigation

Our operations are governed by various environmental laws and regulations. Certain of our businesses are and have been engaged in the handling, manufacture or use of substances or compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of our past and current operations and products have the potential to cause environmental or other damage. We have implemented and continue to implement various policies and programs in

an effort to minimize these risks. Our policy is to maintain compliance with applicable environmental laws and regulations at all of our plants and to strive to improve environmental performance. From time to time, we may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes, the resolution of which typically involves the establishment of compliance programs. It is possible that future developments, such as stricter requirements of environmental laws and enforcement policies, could adversely affect our production, handling, use, storage, transportation, sale or disposal of such substances. We believe that all of our facilities are in substantial compliance with applicable environmental laws.

Certain properties and facilities used in our former operations, including divested primary and secondary lead smelters and former mining locations, are the subject of civil litigation, administrative proceedings or investigations arising under federal and state environmental laws and common law. Additionally, in connection with past operating practices, we are currently involved as a defendant, potentially responsible party (PRP) or both, pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act (CERCLA), and similar state laws in various governmental and private actions associated with waste disposal sites, mining locations, and facilities that we or our predecessors, our subsidiaries or their predecessors currently or previously owned, operated or used, certain of which are on the United States Environmental Protection Agency's (EPA) Superfund National Priorities List or similar state lists. These proceedings seek cleanup costs, damages for personal injury or property damage and/or damages for injury to natural resources. Certain of these proceedings involve claims for substantial amounts. Although we may be jointly and severally liable for these costs, in most cases we are only one of a number of PRPs who may also be jointly and severally liable, and among whom costs may be shared or allocated. In addition, we are occasionally named as a party in a number of personal injury lawsuits filed in various jurisdictions alleging claims related to environmental conditions alleged to have resulted from our operations.

Obligations associated with environmental remediation and related matters are difficult to assess and estimate for numerous reasons including the:

- complexity and differing interpretations of governmental regulations,
- number of PRPs and their ability or willingness to fund such allocation of costs,
- financial capabilities of the PRPs and the allocation of costs among them,
- solvency of other PRPs,
- multiplicity of possible solutions,
- number of years of investigatory, remedial and monitoring activity required,
- uncertainty over the extent, if any, to which our former operations might have contributed to the conditions allegedly giving rise to such personal injury, property damage, natural resource and related claims, and
- number of years between former operations and notice of claims and lack of information and documents about the former operations.

In addition, the imposition of more stringent standards or requirements under environmental laws or regulations, new developments or changes regarding site cleanup costs or the allocation of costs among PRPs, solvency of other PRPs, the results of future testing and analysis undertaken with respect to certain sites or a determination that we are potentially responsible for the release of hazardous substances at other sites, could cause our expenditures to exceed our current estimates. We cannot assure you that actual costs will not exceed accrued amounts or the upper end of the range for sites for which estimates have been made, and we cannot assure you that costs will not be incurred for sites where no estimates presently can be made. Further, additional environmental and related matters may arise in the future. If we were to incur any future liability, this could have a material adverse effect on our consolidated financial statements, results of operations and liquidity.

We record liabilities related to environmental remediation and related matters (including costs associated with damages for personal injury or property damage and/or damages for injury to natural resources) when estimated future expenditures are probable and reasonably estimable. We adjust such accruals as further information becomes available to us or as circumstances change. Unless the amounts and timing of such estimated future expenditures are fixed and reasonably determinable, we generally do not discount estimated future expenditures to their present value due to the uncertainty of the timing of the payout. We recognize recoveries of costs from other parties, if any, as assets when their receipt is deemed probable. At December 31, 2018, we had

recognized \$15.0 million of receivables for recoveries related to the lead pigment litigation in California discussed above, and at December 31, 2019 we had not recognized any receivables for recoveries.

We do not know and cannot estimate the exact time frame over which we will make payments for our accrued environmental and related costs. The timing of payments depends upon a number of factors, including but not limited to the timing of the actual remediation process; which in turn depends on factors outside of our control. At each balance sheet date, we estimate the amount of our accrued environmental and related costs which we expect to pay within the next twelve months, and we classify this estimate as a current liability. We classify the remaining accrued environmental costs as a noncurrent liability.

On a quarterly basis, we evaluate the potential range of our liability for environmental remediation and related costs at sites where we have been named as a PRP or defendant, including sites for which our wholly-owned environmental management subsidiary, NL Environmental Management Services, Inc., (EMS), has contractually assumed our obligations. At December 31, 2019, we had accrued approximately \$95 million related to approximately 32 sites associated with remediation and related matters that we believe are at the present time and/or in their current phase reasonably estimable. The upper end of the range of reasonably possible costs to us for remediation and related matters for which we believe it is possible to estimate costs is approximately \$115 million, including the amount currently accrued.

We believe that it is not reasonably possible to estimate the range of costs for certain sites. At December 31, 2019, there were approximately five sites for which we are not currently able to reasonably estimate a range of costs. For these sites, generally the investigation is in the early stages, and we are unable to determine whether or not we actually had any association with the site, the nature of our responsibility, if any, for the contamination at the site and the extent of contamination at and cost to remediate the site. The timing and availability of information on these sites is dependent on events outside of our control, such as when the party alleging liability provides information to us. At certain of these previously inactive sites, we have received general and special notices of liability from the EPA and/or state agencies alleging that we, sometimes with other PRPs, are liable for past and future costs of remediating environmental contamination allegedly caused by former operations. These notifications may assert that we, along with any other alleged PRPs, are liable for past and/or future clean-up costs. As further information becomes available to us for any of these sites, which would allow us to estimate a range of costs, we would at that time adjust our accruals. Any such adjustment could result in the recognition of an accrual that would have a material effect on our consolidated financial statements, results of operations and liquidity.

In June 2008, we received a Directive and Notice to Insurers from the New Jersey Department of Environmental Protection (NJDEP) regarding the Margaret's Creek site in Old Bridge Township, New Jersey. NJDEP alleged that a waste hauler transported waste from one of our former facilities for disposal at the site in the early 1970s. NJDEP referred the site to the EPA, and in November 2009, the EPA added the site to the National Priorities List under the name "Raritan Bay Slag Site." In 2012, EPA notified NL of its potential liability at this site. In May 2013, EPA issued its Record of Decision for the site. In June 2013, NL filed a contribution suit under CERCLA and the New Jersey Spill Act titled *NL Industries, Inc. v. Old Bridge Township, et al.* (United States District Court for the District of New Jersey, Civil Action No. 3:13-cv-03493-MAS-TJB) against the current owner, Old Bridge Township, and several federal and state entities NL alleges designed and operated the site and who have significant potential liability as compared to NL which is alleged to have been a potential source of material placed at the site by others. NL's suit also names certain former NL customers of the former NL facility alleged to be the source of some of the materials. In January 2014, EPA issued a Unilateral Administrative Order (UAO) to NL for clean-up of the site based on the EPA's preferred remedy set forth in the Record of Decision. NL is in discussions with EPA about NL's performance of a defined amount of the work at the site and is otherwise taking actions necessary to respond to the UAO. If these discussions and actions are unsuccessful, NL will defend vigorously against all claims while continuing to seek contribution from other PRPs. In March 2017, in a parallel lawsuit initiated by NL in state court against the State of New Jersey, which has significant potential liability as compared to NL, the New Jersey Supreme Court ruled that the State of New Jersey had not waived its immunity under the Spill Act for its pre-1977 conduct. In August 2017, NL filed an amended complaint in the State court alleging post-1977 conduct by the State that led to contamination. In September 2017, the State filed its answer and counterclaims. NL has denied liability on the State's counterclaims and intends to continue to seek contribution from the State.

In August 2009, we were served with a complaint in *Raritan Baykeeper, Inc. d/b/a NY/NJ Baykeeper et al. v. NL Industries, Inc. et al.* (United States District Court, District of New Jersey, Case No. 3:09-cv-04117). This is a citizen's suit filed by two local environmental groups pursuant to the Resource Conservation and Recovery Act

and the Clean Water Act against NL, current owners, developers and state and local government entities. The complaint alleges that hazardous substances were and continue to be discharged from our former Sayreville, New Jersey property into the sediments of the adjacent Raritan River. The former Sayreville site is currently being remediated by owner/developer parties under the oversight of the NJDEP. The plaintiffs seek a declaratory judgment, injunctive relief, imposition of civil penalties and an award of costs. We have denied liability and will defend vigorously against all claims.

In June 2011, we were served in *ASARCO LLC v. NL Industries, Inc., et al.* (United States District Court, Western District of Missouri, Case No. 4:11-cv-00138-DGK). The plaintiff brought this CERCLA contribution action against several defendants to recover a portion of the amount it paid in settlement with the U.S. Government during its Chapter 11 bankruptcy in relation to the Tar Creek site, the Cherokee County Superfund Site in southeast Kansas, the Oronogo-Duenweg Lead Mining Belt Superfund Site in Jasper County, Missouri and the Newton County Mine Tailing Site in Newton County, Missouri. We have denied liability and will defend vigorously against all of the claims. In the second quarter of 2012, NL filed a motion to stay the case. In the first quarter of 2013, NL's motion was granted and the court entered an indefinite stay. In the first quarter of 2015, Asarco was granted permission to seek an interlocutory appeal of that stay order. In March 2015, the Eighth Circuit Court of Appeals denied Asarco's request for an interlocutory appeal of the stay order and the trial court's indefinite stay remains in place.

In September 2011, we were served in *ASARCO LLC v. NL Industries, Inc., et al.* (United States District Court, Eastern District of Missouri, Case No. 4:11-cv-00864). The plaintiff brought this CERCLA contribution action against several defendants to recover a portion of the amount it paid in settlement with the U.S. Government during its Chapter 11 bankruptcy in relation to the Southeast Missouri Mining District. In May 2015, the trial court on its own motion entered an indefinite stay of the litigation. In June 2015, Asarco filed an appeal of the stay in the Eighth Circuit Court of Appeals. NL has moved to dismiss that appeal as improperly filed. In October 2015, the Eighth Circuit Court of Appeals granted NL's motion to dismiss Asarco's appeal and the trial court's indefinite stay remains in place.

In July 2012, we were served in *EPEC Polymers, Inc., v. NL Industries, Inc.*, (United States District Court for the District of New Jersey, Case 3:12-cv-03842-PGS-TJB). The plaintiff, a landowner of property located across the Raritan River from our former Sayreville, New Jersey operation, claims that contaminants from NL's former Sayreville operation came to be located on its land. The complaint seeks compensatory and punitive damages and alleges, among other things, trespass, private nuisance, negligence, strict liability, and claims under CERCLA and the New Jersey Spill Act. In April 2016, the case was stayed and administratively terminated pending court-ordered mediation. In October 2017, the parties informed the court that further mediation would not be fruitful. The case was reopened in December 2017. We will continue to deny liability and defend vigorously against all of the claims.

In September 2013, EPA issued to NL and 34 other PRPs general notice of potential liability and a demand for payment of past costs and performance of a Remedial Design for the Gowanus Canal Superfund Site in Brooklyn, New York. In March 2014, EPA issued a UAO to NL and approximately 27 other PRPs for performance of the Remedial Design at the site. EPA contends that NL is liable as the alleged successor to the Doehler Die Casting Company, and therefore responsible for any potential contamination at the site resulting from Doehler's ownership/operation of a warehouse and a die casting plant it owned 90 years ago. In April 2019, EPA issued a second UAO to NL and approximately 27 other PRPs for performance of certain work related to the Remedial Design at the site. NL believes that it has no liability at the site. NL is currently in discussions with EPA regarding a *de minimis* settlement and is otherwise taking actions necessary to respond to the UAO. If these discussions are unsuccessful, NL will continue to deny liability and will defend vigorously against all of the claims.

In August 2017, we were served in *Refined Metals Corporation v. NL Industries, Inc.*, (United States District Court for the Southern District of Indiana, Case 1:17-cv-2565). This is a CERCLA and state law contribution action brought by the current owner of a former secondary lead smelting facility located in Beech Grove, Indiana. We intend to deny liability and will defend vigorously against all claims. In September 2018, the court dismissed the case, holding that all federal claims brought against NL were barred by the statute of limitations and finding that the court lacked jurisdiction to consider the state law claims. In October 2019, Refined Metals filed a new complaint against NL alleging only state law claims. NL will continue to deny liability and will vigorously defend against all claims.

In January 2020, we were sued in *Atlantic Richfield, Co. v. NL Industries, Inc.*, (United States District Court for the District of Colorado, Case 1:20-cv-00234). This is a CERCLA cost recovery action brought by a past owner and operator of certain mining properties located in Rico, Colorado. We intend to deny liability and will defend vigorously against all claims.

Other litigation

We have been named as a defendant in various lawsuits in several jurisdictions, alleging personal injuries as a result of occupational exposure primarily to products manufactured by our former operations containing asbestos, silica and/or mixed dust. In addition, some plaintiffs allege exposure to asbestos from working in various facilities previously owned and/or operated by us. There are 108 of these types of cases pending, involving a total of approximately 583 plaintiffs. In addition, the claims of approximately 8,715 plaintiffs have been administratively dismissed or placed on the inactive docket in Ohio state courts. We do not expect these claims will be re-opened unless the plaintiffs meet the courts' medical criteria for asbestos-related claims. We have not accrued any amounts for this litigation because of the uncertainty of liability and inability to reasonably estimate the liability, if any. To date, we have not been adjudicated liable in any of these matters.

Based on information available to us, including:

- facts concerning historical operations,
- the rate of new claims,
- the number of claims from which we have been dismissed, and
- our prior experience in the defense of these matters,

we believe that the range of reasonably possible outcomes of these matters will be consistent with our historical costs (which are not material). Furthermore, we do not expect any reasonably possible outcome would involve amounts material to our consolidated financial position, results of operations or liquidity. We have sought and will continue to vigorously seek, dismissal and/or a finding of no liability from each claim. In addition, from time to time, we have received notices regarding asbestos or silica claims purporting to be brought against former subsidiaries, including notices provided to insurers with which we have entered into settlements extinguishing certain insurance policies. These insurers may seek indemnification from us.

In addition to the matters described above, we and our affiliates are also involved in various other environmental, contractual, product liability, patent (or intellectual property), employment and other claims and disputes incidental to present and former businesses. In certain cases, we have insurance coverage for these items, although we do not expect additional material insurance coverage for environmental matters. We currently believe that the disposition of all of these various other claims and disputes (including asbestos-related claims), individually or in the aggregate, should not have a material adverse effect on our consolidated financial position, results of operations or liquidity beyond the accruals already provided.

Insurance coverage claims

We are involved in certain legal proceedings with a number of our former insurance carriers regarding the nature and extent of the carriers' obligations to us under insurance policies with respect to certain lead pigment and asbestos lawsuits. The issue of whether insurance coverage for defense costs or indemnity or both will be found to exist for our lead pigment and asbestos litigation depends upon a variety of factors and we cannot assure you that such insurance coverage will be available.

We have agreements with certain of our former insurance carriers pursuant to which the carriers reimburse us for a portion of our future lead pigment litigation defense costs, and one such carrier reimburses us for a portion of our future asbestos litigation defense costs. We are not able to determine how much we will ultimately recover from these carriers for defense costs incurred by us because of certain issues that arise regarding which defense costs qualify for reimbursement. While we continue to seek additional insurance recoveries, we do not know if we will be successful in obtaining reimbursement for either defense costs or indemnity. Accordingly, we recognize insurance

recoveries in income only when receipt of the recovery is probable and we are able to reasonably estimate the amount of the recovery.

In January 2014, we were served with a complaint in *Certain Underwriters at Lloyds, London, et al v. NL Industries, Inc.* (Supreme Court of the State of New York, County of New York, Index No. 14/650103). The plaintiff, a former insurance carrier of ours, is seeking a declaratory judgment of its obligations to us under insurance policies issued to us by the plaintiff with respect to certain lead pigment lawsuits. Other insurers have been added as parties to the case and have also sought a declaratory judgment regarding their obligations under certain insurance policies. NL has filed a counterclaim seeking a declaratory judgment that all of the insurers are obligated to provide NL with certain coverage and seeking damages for breach of contract. The case is now proceeding in the trial court. We believe the insurers' claims are without merit and we intend to defend NL's rights and prosecute NL's claims in this action vigorously.

We have settled insurance coverage claims concerning environmental claims with certain of our principal former insurance carriers. We do not expect further material settlements relating to environmental remediation coverage.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable

PART II

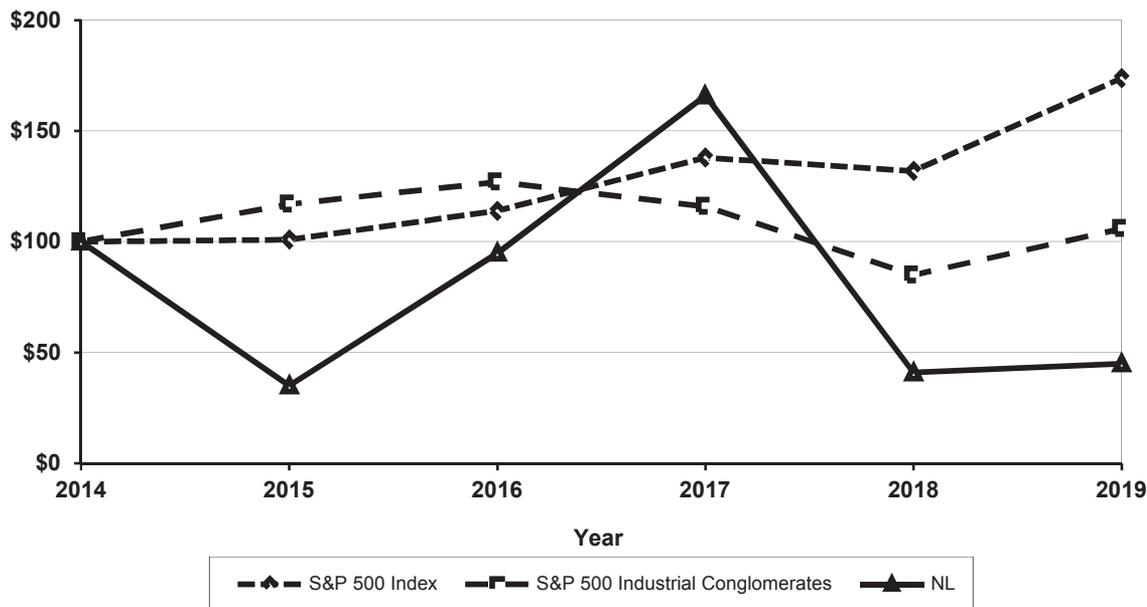
ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our common stock is listed and traded on the New York Stock Exchange (NYSE: NL). As of February 28, 2020, there were approximately 1,800 holders of record of our common stock.

Performance graph

Set forth below is a table and line graph comparing the yearly change in our cumulative total stockholder return on our common stock against the cumulative total return of the S&P 500 Composite Stock Price Index and the S&P 500 Industrial Conglomerates Index for the period from December 31, 2014 through December 31, 2019. The graph shows the value at December 31 of each year assuming an original investment of \$100 at December 31, 2014 and the reinvestment of dividends.

	December 31,					
	2014	2015	2016	2017	2018	2019
NL common stock	\$ 100	\$ 35	\$ 95	\$ 166	\$ 41	\$ 45
S&P 500 Composite Stock Price Index	100	101	114	138	132	174
S&P 500 Industrial Conglomerates Index	100	117	127	116	85	106



The information contained in the performance graph shall not be deemed “soliciting material” or “filed” with the SEC, or subject to the liabilities of Section 18 of the Securities Exchange Act, except to the extent we specifically request that the material be treated as soliciting material or specifically incorporate this performance graph by reference into a document filed under the Securities Act or the Securities Exchange Act.

Equity compensation plan information

We have an equity compensation plan, which was approved by our shareholders, pursuant to which an aggregate of 200,000 shares of our common stock can be awarded to members of our board of directors. At

December 31, 2019, 113,150 shares are available for award under this plan. See Note 15 to our Consolidated Financial Statements.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data should be read in conjunction with our Consolidated Financial Statements and Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Years ended December 31,				
	2015	2016	2017	2018	2019
	(In millions, except per share data)				
STATEMENTS OF OPERATIONS DATA:					
Net sales	\$ 109.0	\$ 108.9	\$ 112.0	\$ 118.2	\$ 124.2
Income from component products operations	14.0	15.6	15.2	17.8	17.7
Equity in earnings (losses) of Kronos	(52.8)	13.2	107.8	62.3	26.5
Net income (loss)	(22.7)	16.7	117.8	(39.0)	28.0
Net income (loss) attributable to NL stockholders	(23.9)	15.3	116.1	(41.0)	25.8
DILUTED EARNINGS PER SHARE DATA:					
Net income (loss) attributable to NL stockholders	\$ (0.49)	\$ 0.31	\$ 2.38	\$ (0.84)	\$ 0.53
Cash dividends per share	\$ -	\$ -	\$ -	\$ -	\$ -
Weighted average common shares outstanding	48,688	48,701	48,711	48,727	48,745
BALANCE SHEET DATA (at year end):					
Total assets	\$ 349.3	\$ 385.0	\$ 551.6	\$ 547.2	\$ 557.5
Long-term debt, including current maturities	-	0.5	0.5	0.5	0.5
NL stockholders' equity	150.0	177.9	335.3	284.1	304.5
Total equity	165.3	194.3	353.1	303.6	327.2
STATEMENTS OF CASH FLOW DATA:					
Net cash provided by (used in):					
Operating activities	\$ 27.6	\$ 27.7	\$ 18.6	\$ 17.1	\$ 27.4
Investing activities	(4.3)	(30.6)	(13.6)	1.3	9.9
Financing activities	(0.3)	0.2	(0.3)	(0.3)	(0.5)

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

RESULTS OF OPERATIONS

Business overview

We are primarily a holding company. We operate in the component products industry through our majority-owned subsidiary, CompX International Inc. We also own a noncontrolling interest in Kronos Worldwide, Inc. Both CompX (NYSE American: CIX) and Kronos (NYSE: KRO) file periodic reports with the SEC.

CompX is a leading manufacturer of engineered components utilized in a variety of applications and industries. Through its Security Products operations, CompX manufactures mechanical and electronic cabinet locks and other locking mechanisms used in recreational transportation, postal, office and institutional furniture, cabinetry, tool storage and healthcare applications. CompX also manufactures stainless steel exhaust systems, gauges, throttle controls, wake enhancement systems and trim tabs for the recreational marine and other industries through its Marine Components operations.

We account for our 30% non-controlling interest in Kronos by the equity method. Kronos is a leading global producer and marketer of value-added titanium dioxide pigments. TiO₂ is used for a variety of manufacturing applications including coatings, plastics, paper and other industrial products.

Net income (loss) overview

Our net income attributable to NL stockholders was \$25.8 million, or \$.53 per share, in 2019 compared to a net loss of \$41.0 million, or \$.84 per share, in 2018 and net income of \$116.1 million, or \$2.38 per share, in 2017.

As more fully described below, the increase in our earnings per share attributable to NL stockholders from 2018 to 2019 is primarily due to the net effects of:

- a pre-tax litigation settlement expense of \$19.3 million in 2019 (mostly recognized in the second quarter) compared to \$62.0 million recognized in the second quarter of 2018,
- equity in earnings from Kronos in 2019 of \$26.5 million compared to \$62.3 million in 2018,
- favorable relative changes in the value of marketable equity securities of \$60.0 million,
- higher insurance recoveries in 2019 of \$3.8 million related primarily to a single insurance recovery settlement of \$4.5 million for certain past and future litigation defense costs,
- a gain of \$4.4 million in 2019 related to a sale of excess property, recognized in the third quarter,
- a gain of \$3.0 million in 2019 related to the sale of our insurance and risk management business, recognized in the fourth quarter,
- lower environmental remediation and related costs of \$3.3 million in 2019, and
- lower litigation fees and related costs of \$2.2 million in 2019.

As more fully described below, the decrease in our earnings per share attributable to NL stockholders from 2017 to 2018 is primarily due to the net effects of:

- a pre-tax litigation settlement expense of \$62.0 million recognized in the second quarter of 2018,
- a pre-tax marketable equity securities expense of \$60.9 million recognized in 2018 as a result of adopting ASU 2016-01 in 2018,
- equity in earnings of Kronos in 2018 of \$62.3 million compared to \$107.8 million in 2017,
- higher income from operations attributable to CompX of \$2.6 million in 2018, and

- higher litigation fees and litigation related costs of \$2.4 million in 2018.

Our 2019 net income per share attributable to NL stockholders includes:

- a loss of \$.31 per share, net of income tax benefit, related to the litigation settlement expense, recognized mainly in the second quarter,
- income of \$.08 per share, net of income tax expense, related to insurance recoveries, recognized mainly in the second quarter,
- income of \$.07 per share, net of income tax expense, related to a gain from a sale of excess property, recognized in the third quarter,
- income of \$.05 per share, net of income tax expense, related to a gain from the sale of our insurance and risk management business, recognized in the fourth quarter,
- a loss of \$.03 per share related to Kronos' fourth quarter recognition of a non-cash deferred income tax expense primarily related to the revaluation of Kronos' net deferred income tax asset in Germany as a result of a decrease in the German trade tax rate,
- income of \$.01 per share related to Kronos' fourth quarter recognition of an income tax benefit related to the favorable settlement of a prior year tax matter in Germany, and
- income of \$.01 per share related to Kronos' insurance settlement gain recognized in the fourth quarter.

Our 2018 net loss per share attributable to NL stockholders includes:

- a loss of \$1.01 per share related to the litigation settlement expense, recognized in the second quarter,
- a loss of \$.02 per share related to Kronos' tax on global intangible low-tax income, recognized in the fourth quarter, and
- a loss of \$.01 per share related to Kronos' reserve for uncertain tax positions, recognized in the first and fourth quarters.

Our 2017 net income per share attributable to NL stockholders includes:

- income of \$.77 per share related to a non-cash deferred income tax benefit related to the revaluation of our net deferred income tax liability resulting from the reduction in the U.S. federal corporate income tax rate enacted into law on December 22, 2017,
- income of \$.01 per share, net of income taxes, related to insurance recoveries we recognized,
- income of \$.76 per share related to Kronos' non-cash deferred income tax benefit recognized as the result of the reversal of its deferred income tax asset valuation allowances associated with its German and Belgian operations, mostly recognized in the second quarter,
- income of \$.08 per share related to Kronos' fourth quarter non-cash deferred income tax benefit recognized as the result of the reversal of its deferred income tax asset valuation allowance related to certain U.S. deferred income tax assets of one of its non-U.S. subsidiaries (which subsidiary is treated as a dual resident for U.S. income tax purposes),
- a loss of \$.31 per share related to Kronos' fourth quarter provisional current income tax expense as a result of a change in the 2017 Tax Act for the one-time repatriation tax imposed on the post-1986 undistributed earnings of Kronos' non-U.S. subsidiaries,
- income of \$.05 per share related to Kronos' income tax benefit related to the execution and finalization of an Advance Pricing Agreement between the Canada and Germany, mostly recognized in the third quarter (which includes an \$8.6 million non-cash income tax benefit as a result of a net decrease in Kronos' reserve for uncertain tax positions),

- a loss of \$.02 per share related to Kronos' fourth quarter provisional non-cash deferred income tax expense related to a change in its conclusions regarding its permanent reinvestment assertion with respect to the post-1986 undistributed earnings of Kronos' European subsidiaries, and
- a loss of \$.02 per share related to Kronos' third quarter loss on prepayment of debt.

Outlook

We currently expect our net income attributable to NL stockholders in 2020 to be lower than 2019 primarily due to lower expected equity in earnings from Kronos partially offset by the net effects of the non-recurring items discussed above.

Income (loss) from operations

The following table shows the components of our income (loss) from operations.

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
CompX	\$ 15.2	\$ 17.8	\$ 17.7	17 %	(1) %
Insurance recoveries	.4	1.3	5.1	246	296
Other income, net	.2	.6	7.4	279	1,056
Litigation settlement expense, net	-	(62.0)	(19.3)	n.m.	(69)
Corporate expense	(14.1)	(18.4)	(12.5)	31	(32)
Income (loss) from operations	<u>\$ 1.7</u>	<u>\$ (60.7)</u>	<u>\$ (1.6)</u>	(3,671)	97

The following table shows the components of our income (loss) before income taxes exclusive of our income (loss) from operations.

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
Equity in earnings of Kronos	\$ 107.8	\$ 62.3	\$ 26.5	(42)%	(58) %
Marketable equity securities	-	(60.9)	(.9)	n.m.	(99)
Other components of net periodic pension cost	(.8)	(.1)	(1.4)	(86)	1,096
Interest and dividend income	3.5	5.0	6.7	42	32
Interest expense	-	-	(.7)	-	n.m.

CompX International Inc.

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
Net sales	\$ 112.0	\$ 118.2	\$ 124.2	6 %	5 %
Cost of sales	77.2	79.9	85.2	4	7
Gross margin	34.8	38.3	39.0	10	2
Operating costs and expenses	19.6	20.5	21.3	4	4
Income from operations	\$ 15.2	\$ 17.8	\$ 17.7	17	(1)
Percentage of net sales:					
Cost of sales	68.9 %	67.6 %	68.6 %		
Gross margin	31.1	32.4	31.4		
Operating costs and expenses	17.5	17.3	17.1		
Income from operations	13.6	15.1	14.2		

Net sales - Net sales increased approximately \$6.0 million in 2019 compared to 2018 primarily due to higher Marine Components sales to the towboat market. Relative changes in selling prices did not have a material impact on net sales comparisons.

Net sales increased approximately \$6.2 million in 2018 compared to 2017 primarily due to higher Marine Components sales volumes to manufacturers of ski/wakeboard boats and larger center-console boats; and to a lesser extent Security Products sales to certain markets, particularly transportation and office furniture. Relative changes in selling prices did not have a material impact on net sales comparisons.

Cost of sales and gross margin – Cost of sales increased from 2018 to 2019 due to the effects of increased sales volumes for both CompX’s Security Products and Marine Components businesses and increased labor costs at Security Products. As a result, gross margin as a percentage of sales decreased over the same period. The decrease in gross margin percentage is the result of the decline in Security Products gross margin percentage in 2019 as compared to 2018.

Cost of sales increased from 2017 to 2018 primarily due to increased sales volumes for both CompX’s Security Products and Marine Components businesses. Gross margin dollars and gross margin as a percentage of sales increased from 2017 to 2018 primarily due to greater fixed cost leverage facilitated by higher production volumes for each of our business segments.

Operating costs and expenses – Operating costs and expenses consist primarily of sales and administrative-related personnel costs, sales commissions and advertising expenses directly related to product sales and administrative costs relating to CompX’s businesses and its corporate management activities, as well as gains and losses on property and equipment. Operating costs and expenses as a percentage of sales were comparable in 2017, 2018 and 2019.

Income from operations – As a percentage of net sales, operating income decreased from 2018 to 2019 while operating income increased from 2017 to 2018. Operating margins were primarily impacted by the factors impacting net sales, cost of sales, gross margin and operating costs discussed above.

General – CompX’s profitability primarily depends on its ability to utilize production capacity effectively, which is affected by, among other things, the demand for its products and its ability to control manufacturing costs, primarily comprised of labor costs and materials. The materials used in its products consist of purchased components and raw materials some of which are subject to fluctuations in the commodity markets such as zinc, brass and stainless steel. Total material costs represented approximately 45% of CompX’s cost of sales in 2019, with commodity-related raw materials accounting for approximately 13% of cost of sales. During 2018, markets for the primary commodity-related raw materials used in the manufacture of its locking mechanisms, primarily zinc and brass, generally strengthened, but moderated at the end of 2018 and remained relatively stable through 2019. Over that same period, the market for stainless steel, the primary raw material used for the manufacture of marine exhaust

headers and pipes and wake enhancement systems, remained relatively stable. While CompX expects the markets for its primary commodity-related raw materials to remain stable during 2020, it recognizes that economic conditions could introduce renewed volatility on these and other manufacturing materials.

CompX occasionally enters into short-term commodity-related raw material supply arrangements to mitigate the impact of future increases in commodity related raw material costs. See Item 1 - “Business- Raw Materials.”

Results by reporting unit

The key performance indicator for CompX’s reporting units is the level of their income from operations (see discussion below).

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
Security Products:					
Net sales	\$ 96.6	\$ 98.4	\$ 99.3	2 %	1 %
Cost of sales	65.5	65.5	67.1	-	2
Gross margin	31.1	32.9	32.2	6	(2)
Operating costs and expenses	11.9	11.0	11.2	(9)	3
Operating income	\$ 19.2	\$ 21.9	\$ 21.0	14	(4)
Gross margin	32.2 %	33.4 %	32.5 %		
Operating income margin	19.9	22.3	21.2		

Security Products - Security Products net sales increased 1% to \$99.3 million in 2019 compared to \$98.4 million in 2018, primarily due to higher sales to government security and medical cart manufacturing markets, partially offset by lower sales to the transportation, electronic control panel and distribution markets. As a percentage of sales, gross margin and operating income for 2019 declined as compared to 2018 primarily due to increased labor rates and associated payroll costs resulting from regional pressure on wages for certain skilled labor positions, partially offset by favorable medical costs.

Security Products net sales increased 2% to \$98.4 million in 2018 compared to \$96.6 million in 2017, primarily due to higher sales to the transportation and office furniture markets. As a percentage of sales, gross profit for 2018 increased slightly over 2017 due to lower production costs, including headcount reductions made during the second quarter of 2017, and improved coverage of fixed costs over increased production volumes. Operating costs and expenses for 2018 were slightly lower than 2017. As a result, Security Products operating income as a percentage of net sales for 2018 exceeded 2017.

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
Marine Components:					
Net sales	\$ 15.4	\$ 19.8	\$ 24.9	29 %	26 %
Cost of sales	11.7	14.4	18.2	23	26
Gross margin	3.7	5.4	6.7	46	25
Operating costs and expenses	2.4	2.7	3.1	13	16
Operating income	\$ 1.3	\$ 2.7	\$ 3.6	104	33
Gross margin	24.0 %	27.2 %	27.0 %		
Operating income margin	8.7	13.8	14.6		

Marine Components - Marine Components net sales increased 26% in 2019 as compared to 2018 primarily due to increased sales to the towboat market, primarily wake enhancement systems and surf pipes to an original equipment boat manufacturer. Gross margin as a percentage of sales in 2019 was comparable to 2018. Operating income as a percentage of net sales increased in 2019 compared to 2018 principally due to improved leverage on operating costs and expenses facilitated by higher production volumes.

Marine Components net sales increased 29% in 2018 as compared to 2017 as a result of continued strong demand for our products, particularly those sold to the ski/wakeboard boat market as well as to manufacturers of large center-console boats and industrial customers. Gross profit margin and operating income as a percentage of net sales increased in 2018 compared to 2017 principally due to improved fixed cost leverage facilitated by higher production volumes.

Outlook – 2019 was a breakout year for CompX’s Marine Components reporting unit which sustained the significant growth experienced in the second half of 2018 and for the full year of 2019. Growth of Marine Components reporting unit will be more normalized in 2020. CompX’s Security Products reporting unit experienced modest sales growth in 2019 however it began to notice headwinds late in 2019 which may carry into 2020. In 2020, CompX plans to capitalize on the positive momentum that the Marine Components reporting unit has experienced over the last two years while maintaining strong results in the Security Products reporting unit. It will continue to monitor economic conditions and sales order rates and respond to fluctuations in customer demand through continuous evaluation of staffing levels and consistent execution of lean manufacturing and cost improvement initiatives. Additionally, CompX will continue to seek opportunities to gain market share in markets currently served, to expand into new markets and to develop new product features in order to mitigate the impact of changes in demand as well as broaden its sales base.

General corporate items, interest and dividend income, interest expense, provision for income taxes, noncontrolling interest and related party transactions

Insurance recoveries - We have agreements with certain insurance carriers pursuant to which the carriers reimburse us for a portion of our past lead pigment and asbestos litigation defense costs. Insurance recoveries include amounts we received from these insurance carriers. We recognized \$5.1 million in insurance recoveries in 2019 primarily related to a single settlement we reached with one of our insurance carriers in which they agreed to reimburse us for a portion of our past and future litigation defense costs.

The agreements with certain of our insurance carriers also include reimbursement for a portion of our future litigation defense costs. We are not able to determine how much we will ultimately recover from these carriers for defense costs incurred by us because of certain issues that arise regarding which defense costs qualify for reimbursement. Accordingly, these insurance recoveries are recognized when receipt is probable and the amount is determinable. See Note 17 to our Consolidated Financial Statements.

Other income, net - Other income, net in 2019 includes a gain of \$4.4 million related to a sale of excess property in the third quarter and a gain of \$3.0 million related to the sale of our insurance and risk management business in the fourth quarter. See Note 13 to our Consolidated Financial Statements.

Litigation settlement expense - We recognized a pre-tax \$62.0 million and \$19.3 million litigation settlement expense net of expected insurance recoveries in 2018 and 2019, respectively, related to the lead pigment litigation in California. See Note 17 to our Consolidated Financial Statements.

Corporate expense - Corporate expenses were \$12.5 million in 2019, \$5.9 million or 32% lower than in 2018 primarily due to lower litigation fees and related costs and lower environmental remediation and related costs. Included in corporate expenses are:

- litigation fees and related costs of \$4.0 million in 2019 compared to \$6.2 million in 2018, and
- environmental remediation and related benefit of \$.6 million in 2019 compared to costs of \$2.7 million in 2018.

Corporate expenses were \$18.4 million in 2018, \$4.3 million or 31% higher than in 2017 primarily due to higher litigation fees and related costs somewhat offset by lower environmental remediation and related costs. Included in corporate expenses are:

- litigation fees and related costs of \$6.2 million in 2018 compared to \$3.8 million in 2017, and
- environmental remediation and related costs of \$2.7 million in 2018 compared to \$3.4 million in 2017.

Overall, we currently expect that our net general corporate expenses in 2020 will be higher than in 2019 primarily due to higher expected litigation fees and related costs and higher environmental remediation and related costs.

The level of our litigation fees and related costs varies from period to period depending upon, among other things, the number of cases in which we are currently involved, the nature of such cases and the current stage of such cases (e.g. discovery, pre-trial motions, trial or appeal, if applicable). See Note 17 to our Consolidated Financial Statements. If our current expectations regarding the number of cases in which we expect to be involved during 2020 or the nature of such cases were to change, our corporate expenses could be higher than we currently estimate.

Obligations for environmental remediation and related costs are difficult to assess and estimate and it is possible that actual costs for environmental remediation will exceed accrued amounts or that costs will be incurred in the future for sites in which we cannot currently estimate our liability. If these events were to occur in 2020, our corporate expenses would be higher than we currently estimate. In addition, we adjust our environmental accruals as further information becomes available to us or as circumstances change. Such further information or changed circumstances could result in an increase in our accrued environmental costs. See Note 17 to our Consolidated Financial Statements.

Interest and dividend income – Interest income increased \$1.7 million in 2019 compared to 2018 and increased \$1.5 million in 2018 compared to 2017 primarily due to higher cash and cash equivalent and restricted cash and cash equivalent balances available for investment, higher average outstanding balances under CompX's loan to Valhi under a promissory note and higher average interest rates. We also recognized \$.6 million of accrued interest income on the insurance recovery receivable in the second quarter of 2019.

Marketable equity securities – Beginning on January 1, 2018 with the adoption of ASU 2016-01, any unrealized gains or losses on our marketable equity securities are now recognized in Marketable equity securities on our Consolidated Statements of Operations. See Note 5 to our Consolidated Financial Statements.

Income tax expense (benefit) - We recognized an income tax benefit of \$5.6 million in 2017 and \$15.4 million in 2018 and an income tax expense of \$.6 million in 2019. As discussed below, our income tax benefit in 2017 includes a non-cash deferred income tax benefit of \$37.5 million related to the revaluation of our net deferred income tax liability resulting from the reduction in the U.S. federal corporate income tax rate enacted into law on December 22, 2017.

In accordance with GAAP, we recognize deferred income taxes on our undistributed equity in earnings of Kronos. Because we and Kronos are part of the same U.S. federal income tax group, any dividends we receive from Kronos are nontaxable to us. Accordingly, we do not recognize and we are not required to pay income taxes on dividends from Kronos. Therefore, our full-year effective income tax rate will generally be lower than the U.S. federal statutory income tax rate in years during which we receive dividends from Kronos and recognize equity in earnings of Kronos. Conversely, our effective income tax rate will generally be higher than the U.S. federal statutory income tax rate in years during which we receive dividends from Kronos and recognize equity in losses of Kronos. During interim periods, our effective income tax rate may not necessarily correspond to the foregoing due to the application of accounting for income taxes in interim periods which requires us to base our effective rate on full year projections. We received aggregate dividends from Kronos of \$21.1 million in 2017, \$23.9 million in 2018 and \$25.4 million in 2019. Our effective tax rate attributable to our equity in earnings (losses) of Kronos, including the effect of non-taxable dividends we received from Kronos, was 28.1% in 2017, 12.9% in 2018 and .9% in 2019. The reduction in our effective rate attributable to our equity in earnings of Kronos from 2017 to 2018 is primarily attributable to the reduction in the corporate income tax rate discussed below. The reduction in our effective rate from 2018 to 2019 is

primarily attributable to the net effects of Kronos' lower earnings in 2019 as compared to 2018 and the impact of the income tax benefit related to the non-taxable dividends received from Kronos.

See Note 14 to our Consolidated Financial Statements for more information about our 2019 income tax items, including a tabular reconciliation of our statutory tax expense (benefit) to our actual tax expense (benefit).

Noncontrolling interest - Noncontrolling interest in net income of CompX attributable to continuing operations is consistent in each of 2017, 2018 and 2019.

Related party transactions - We are a party to certain transactions with related parties. See Notes 1 and 16 to our Consolidated Financial Statements. It is our policy to engage in transactions with related parties on terms, in our opinion, no less favorable to us than we could obtain from unrelated parties.

Equity in earnings of Kronos Worldwide, Inc.

	Years ended December 31,			% Change	
	2017	2018	2019	2017-18	2018-19
	(Dollars in millions)				
Net sales	\$ 1,729.0	\$ 1,661.9	\$ 1,731.1	(4)%	4 %
Cost of sales	1,159.3	1,099.7	1,344.9	(5)%	22 %
Gross margin	<u>\$ 569.7</u>	<u>\$ 562.2</u>	<u>\$ 386.2</u>		
Income from operations	\$ 347.8	\$ 330.1	\$ 145.8	(5)%	(56) %
Other income (loss), net	(23.1)	(16.8)	(6.0)	27	64
Interest expense	(19.0)	(19.5)	(18.7)	3	(4)
Income before income taxes	305.7	293.8	121.1		
Income tax expense (benefit)	(48.8)	88.8	34.0		
Net income	<u>\$ 354.5</u>	<u>\$ 205.0</u>	<u>\$ 87.1</u>		
Percentage of net sales:					
Cost of sales	67 %	66 %	78 %		
Income from operations	20 %	20 %	8 %		
Equity in earnings of Kronos Worldwide, Inc.	<u>\$ 107.8</u>	<u>\$ 62.3</u>	<u>\$ 26.5</u>		
TiO ₂ operating statistics:					
Sales volumes*	586	491	566	(16)%	15 %
Production volumes*	576	536	546	(7)%	2 %
Change in TiO ₂ net sales:					
TiO ₂ product pricing				13 %	(6) %
TiO ₂ sales volumes				(16)	15
TiO ₂ product mix/other				(4)	(2)
Changes in currency exchange rates				3	(3)
Total				<u>(4)%</u>	<u>4 %</u>

* Thousands of metric tons

Industry conditions and 2019 overview – At the beginning of 2019, Kronos' average TiO₂ selling prices were 3% lower than at the beginning of 2018 and from that point, average selling prices, though lower than 2018 selling prices, were relatively stable throughout 2019. Kronos' average selling prices at the end of the fourth quarter

of 2019 were 1% lower than at the end of the third quarter of 2019 and 1% lower than at the end of 2018. Kronos experienced higher sales volumes in the European, North American and export markets in 2019 as compared to sales volumes in 2018, with the European market experiencing the most significant increase.

The following table shows Kronos' capacity utilization rates during 2018 and 2019.

	<u>2018</u>	<u>2019</u>
First Quarter	95%	97%
Second Quarter	97%	97%
Third Quarter	92%	97%
Fourth Quarter	95%	100%
Overall	95%	98%

Primarily due to a moderate rise in the cost of third-party feedstock Kronos procured in 2018 and 2019, Kronos' cost of sales per metric ton of TiO₂ sold in 2019 was higher as compared to 2018 (excluding the effect of changes in currency exchange rates).

Net sales – Kronos' net sales increased 4% or \$69.2 million in 2019 compared to 2018, primarily due to the net effect of a 6% decrease in average TiO₂ selling prices (which decreased net sales by approximately \$100 million), a 15% increase in sales volumes (which increased net sales by approximately \$249 million) and changes in currency exchange rates. TiO₂ selling prices will increase or decrease generally as a result of competitive market pressures, changes in the relative level of supply and demand as well as changes in raw material and other manufacturing costs. Kronos' sales volumes increased 15% in 2019 as compared to the sales volumes of 2018 primarily due to strength in the European, North American and export markets in 2019 as compared to 2018. In addition to the impact of changes in average TiO₂ selling prices and sales volumes, Kronos estimates that changes in currency exchange rates decreased its net sales by approximately \$49 million, or 3%, as compared to 2018.

Kronos' net sales decreased 4% or \$67.1 million in 2018 compared to 2017, primarily due to the net effect of a 13% increase in average TiO₂ selling prices (which increased net sales by approximately \$225 million) and a 16% decrease in sales volumes (which decreased net sales by approximately \$277 million). TiO₂ selling prices will increase or decrease generally as a result of competitive market pressures, changes in the relative level of supply and demand as well as changes in raw material and other manufacturing costs.

Kronos' sales volumes decreased 16% in 2018 as compared to the record sales volumes of 2017 primarily due to a combination of factors including (i) lower sales in all major markets resulting from a controlled ramp-up in January 2018 as Kronos brought the second phase of its new global enterprise resource planning system online; (ii) inventory management to assure adequate supply to its customers during the spring and summer necessitated by the lower production volumes in the first three months of the year (as discussed below); (iii) product availability in the second quarter; and (iv) customer inventory level changes in the second, third and fourth quarters as customer inventory levels returned to more normal levels. In addition to the impact of changes in average TiO₂ selling prices and sales volumes, Kronos estimates that changes in currency exchange rates increased its net sales by approximately \$49 million, or 3%, as compared to 2017.

Cost of sales and gross margin – Kronos' cost of sales increased \$245.2 million or 22% in 2019 compared to 2018 primarily due to the net impact of a 15% increase in sales volumes, higher raw materials and other production costs of approximately \$122 million (including higher cost for third-party feedstock costs, energy and other raw materials) and currency fluctuations (primarily the euro relative to the U.S. dollar). Kronos' cost of sales as a percentage of net sales increased to 78% in 2019 compared to 66% in 2018 primarily due to the unfavorable effects of lower average selling prices and higher raw materials and other production costs, as discussed above.

Kronos' gross margin as a percentage of net sales decreased to 22% in 2019 compared to 34% in 2018. As discussed and quantified above, Kronos' gross margin decreased primarily due to the net effect of lower average selling prices, higher sales volumes and higher raw materials and other production costs.

Kronos' cost of sales decreased \$59.6 million or 5% in 2018 compared to 2017 due to the net impact of a 16% decrease in sales volumes, a 7% decrease in TiO₂ production volumes, higher raw materials and other production costs of approximately \$103 million (primarily caused by higher third-party feedstock ore costs) and currency fluctuations (primarily the euro). The decrease in TiO₂ production volumes in 2018 compared to the production volumes in 2017 was primarily due to increased maintenance activities at certain facilities in 2018, and the implementation of a productivity-enhancing improvement project at its Belgian facility in the first quarter of 2018. Kronos' cost of sales as a percentage of net sales decreased to 66% in 2018 compared to 67% in 2017 as the favorable effects of higher average selling prices more than offset the unfavorable effects related to lower production volumes and higher raw materials and other production costs, as discussed above.

Kronos' gross margin as a percentage of net sales increased to 34% in 2018 compared to 33% in 2017. As discussed and quantified above, Kronos' gross margin increased primarily due to the net effect of higher average selling prices, lower sales and production volumes and higher raw materials and other production costs.

Other operating income and expense, net – Kronos' selling, general and administrative expenses were \$228.2 million in 2019, which were comparable to such expenses in 2018. Kronos' selling, general and administrative expense in 2018 was \$228.3 million, an increase of \$27.7 million compared to 2017 in part due to higher general and administrative costs related to the implementation of a new accounting and manufacturing software system of \$11 million, higher shipping and handling costs of \$4 million and higher sales support costs of \$3 million to better serve its customers. Selling, general and administrative expenses were approximately 14% of net sales in 2018 and 12% of net sales in 2017.

Income from operations – Kronos' income from operations decreased by \$184.3 million, from \$330.1 million in 2018 to \$145.8 million in 2019. Income from operations as a percentage of net sales was 8% in 2019 compared to 20% in 2018. This decrease was driven by the decrease in gross margin discussed above for the comparable periods. Kronos estimates that changes in currency exchange rates decreased income from operations by approximately \$3 million in 2019 as compared to 2018.

Kronos' income from operations decreased by \$17.7 million, from \$347.8 million in 2017 to \$330.1 million in 2018. This decrease was due in part to the decrease in gross margin and the increase in selling, general and administrative expense noted above for the comparable periods. Kronos' income from operations as a percentage of net sales was 20% in each of 2018 and 2017. Kronos estimates that changes in currency exchange rates increased income from operations by approximately \$33 million in 2018 as compared to 2017.

Other non-operating income (expense) – Kronos' loss on marketable equity securities was \$.1 million in 2019 and \$7.3 million in 2018. Other components of net periodic pension and postretirement benefits other than pensions, or OPEB, cost in 2019 was comparable to 2018. Interest expense in 2019 was comparable to 2018.

Beginning on January 1, 2018 with the adoption of ASU 2016-01, all of Kronos' marketable equity securities continued to be carried at fair value, but Kronos began recognizing any unrealized gains or losses on the securities in Marketable equity securities in Kronos' Consolidated Statements of Income. Other components of net periodic pension and OPEB cost decreased \$2.4 million in 2018 compared to 2017 primarily due to a higher expected return on plan assets for certain non-U.S. defined benefit plans in 2018. Interest expense in 2018 was comparable to 2017, as higher average debt levels in 2018 resulting from the September 2017 issuance of Kronos' Senior Secured Notes were offset by lower average interest rates on outstanding indebtedness.

Income tax expense (benefit) – Kronos recognized income tax expense of \$34.0 million in 2019 compared to income tax expense of \$88.8 million in 2018. The decrease is primarily due to lower earnings in 2019. In addition, Kronos' income tax expense in 2019 includes an income tax benefit recognized in the fourth quarter of \$3.0 million related to the favorable settlement of a prior year tax matter in Germany, with \$1.5 million recognized as a current cash tax benefit and \$1.5 million recognized as a non-cash deferred income tax benefit related to an increase to Kronos' German net operating loss carryforward. In addition, in the fourth quarter of 2019, Kronos recognized a non-cash deferred income tax expense of \$5.5 million primarily related to the revaluation of its net deferred income tax asset in Germany resulting from a decrease in the German trade tax rate.

Kronos' earnings are subject to income tax in various U.S. and non-U.S. jurisdictions. Beginning in 2018 (following enactment of the 2017 Tax Act discussed below), the income tax rates applicable to Kronos' pre-tax earnings (losses) of its non-U.S. operations are generally higher than the income tax rates applicable to its U.S. operations. Excluding the effect of any increase or decrease in its deferred income tax asset valuation allowance or changes in its reserve for uncertain tax positions, Kronos would generally expect its overall effective tax rate to be higher than the U.S. federal statutory tax rate of 21% primarily because of its non-U.S. operations. Prior to 2018, the income tax rates applicable to Kronos' pre-tax earnings (losses) of its non-U.S. operations were generally lower than the U.S. federal statutory tax rate of 35%.

Kronos recognized income tax expense of \$88.8 million in 2018 compared to an income tax benefit of \$48.8 million in 2017. Kronos' income tax benefit in 2017 includes a net income tax benefit of \$136.5 million, consisting of the following:

- a \$186.7 million non-cash deferred income tax benefit as a result of the reversal of its deferred income tax asset valuation allowances associated with Kronos' German and Belgian operations;
- an \$18.7 million non-cash deferred income tax benefit as a result of the reversal of its deferred income tax asset valuation allowance related to certain U.S. deferred income tax assets of one of Kronos' non-U.S. subsidiaries (which subsidiary is treated as a dual resident for U.S. income tax purposes);
- a \$76.2 million provisional current income tax expense as a result of the 2017 Tax Act for the one-time repatriation tax imposed on the post-1986 undistributed earnings of its non-U.S. subsidiaries;
- a \$4.5 million provisional non-cash deferred income tax expense related to a change in its conclusions regarding its permanent reinvestment assertion with respect to the post-1986 undistributed earnings of its European subsidiaries; and
- an \$11.8 million aggregate income tax benefit related to the execution and finalization of an Advance Pricing Agreement between Canada and Germany, mostly recognized in the third quarter (which includes an \$8.6 million non-cash income tax benefit as a result of a net decrease in Kronos' reserve for uncertain tax positions).

Kronos' effective income tax rate in 2017, excluding the impact of the reversal of the deferred income tax asset valuation allowances, the one-time repatriation tax, the impact of the change in its permanent reinvestment assertion with respect to the undistributed earnings of Kronos' European subsidiaries and the change to its reserve for uncertain tax positions, was lower than the U.S. federal statutory rate of 35% primarily due to the impact of the earnings of Kronos' non-U.S. subsidiaries.

Kronos' consolidated effective income tax rate in 2020 is expected to be higher than the U.S. federal statutory rate of 21% because the income tax rates applicable to Kronos' earnings (losses) of its non-U.S. operations will be higher than the income tax rates applicable to its U.S. operations. In addition, Kronos' consolidated effective income tax rate in 2020 is expected to be lower than its effective tax rate in 2019 primarily due to the mix of earnings and a decrease in the statutory income tax rate in certain non-U.S. jurisdictions in which Kronos' operates.

- Approximately \$5 million from net currency translation gains primarily caused by the strengthening of the U.S. dollar relative to the Canadian dollar and Norwegian krone, as Kronos' local currency-denominated operating costs were translated into fewer U.S. dollars in 2019 as compared to 2018, partially offset by the strengthening of the U.S. dollar relative to the euro as the reduction in net sales caused by such strengthening of the stronger U.S. dollar on euro-denominated sales more than offset the favorable effect of euro-denominated operating costs being translated into fewer U.S. dollars in 2019 as compared to 2018.

Impact of changes in currency exchange rates - 2018 vs. 2017

	<u>Transaction gains/(losses) recognized</u>			<u>Translation gains impact of rate changes</u>	<u>Total currency impact 2018 vs. 2017</u>
	<u>2017</u>	<u>2018</u>	<u>Change</u>		
	<u>(In millions)</u>				
Impact on:					
Net sales	\$ -	\$ -	\$ -	\$ 49	\$ 49
Income from operations	(8)	10	18	15	33

The \$49 million increase in Kronos' net sales (translation gain) was caused primarily by a weakening of the U.S. dollar relative to the euro (mostly in the fourth quarter), as its euro-denominated sales were translated into more U.S. dollars in 2018 as compared to 2017. The weakening of the U.S. dollar relative to the Canadian dollar and the Norwegian krone in 2018 did not have a significant effect on the reported amount of Kronos' net sales, as a substantial portion of the sales generated by Kronos' Canadian and Norwegian operations are denominated in the U.S. dollar.

The \$33 million increase in Kronos' income from operations was comprised of the following:

- Approximately \$18 million from net currency transaction gains caused by relative changes in currency exchange rates at each applicable balance sheet date between the U.S. dollar and the euro, Canadian dollar and the Norwegian krone, which causes increases or decreases, as applicable, in U.S. dollar-denominated receivables and payables and U.S. dollar currency held by Kronos' non-U.S. operations, and
- Approximately \$15 million from net currency translation gains primarily caused by a weakening of the U.S. dollar relative to the euro as the positive effects of the weaker U.S. dollar on euro-denominated sales more than offset the unfavorable effects of euro-denominated operating costs being translated into more U.S. dollars in 2018 as compared to 2017, partially offset by the weakening of the U.S. dollar relative to the Canadian dollar, as its local currency-denominated operating costs were translated into more U.S. dollars in 2018 as compared to 2017.

Outlook

During 2019 Kronos operated its production facilities at 98% of practical capacity compared to 95% of practical capacity in 2018. Kronos expects its production volumes in 2020 to be slightly higher as compared to the 2019 production volumes. Based on anticipated production levels, and assuming current global economic conditions continue, including limited impact on Kronos' business from the coronavirus discussed below, Kronos expects its 2020 sales volumes to be slightly lower as compared to 2019 sales volumes. Kronos will continue to monitor current and anticipated near-term customer demand levels throughout the year and align its production and inventories accordingly.

The cost of third-party feedstock Kronos purchased in the last half of 2018 and throughout 2019 was higher as compared to the first half of 2018 and such higher cost feedstock was reflected in its results of operations in 2019. Consequently, Kronos' cost of sales per metric ton of TiO₂ sold in 2019 was higher than its per-metric ton cost in

2018 (excluding the effect of changes in currency exchange rates). Kronos expects its cost of sales per metric ton of TiO₂ sold in 2020 to be higher than its per-metric ton cost in 2019 primarily due to continued higher feedstock costs.

At the beginning of 2019, Kronos' average TiO₂ selling prices were 3% lower than at the beginning of 2018 and from that point, average selling prices, though lower than 2018 selling prices, were relatively stable, declining an additional 1% during 2019. Producer inventories of certain grades of TiO₂ remain tight, while inventories of certain other grades are adequate. Considering all of the foregoing factors, including rising raw material costs and steady demand, Kronos expects selling prices to remain stable during the first quarter of 2020.

Overall, Kronos expects its sales in 2020 will be slightly lower than in 2019, principally as a result of the unfavorable impact of lower expected sales volumes. In addition, Kronos expects its income from operations in 2020 will be lower as compared to 2019 due to the unfavorable impact of lower expected sales volumes and higher raw material costs (principally feedstock).

Kronos' expectations for its future operating results are based upon a number of factors beyond its control, including worldwide growth of gross domestic product, competition in the marketplace, continued operation of competitors, technological advances, worldwide production capacity and the consequences arising directly or indirectly out of the recent coronavirus outbreak. The extent of the impact of the coronavirus outbreak on Kronos' operational and financial performance will depend on future developments, including the severity, duration and spread of the outbreak and its impact on, among other things, overall demand for Kronos' products and its customers' products, supply chains, its operations and the operations of its competitors, all of which are uncertain and cannot be predicted. If actual developments differ from Kronos' expectations, its results of operations could be unfavorably affected.

Operations outside the United States

Kronos - Kronos has substantial operations located outside the United States (principally Europe and Canada) for which the functional currency is not the U.S. dollar. As a result, the reported amount of our net investment in Kronos will fluctuate based upon changes in currency exchange rates. At December 31, 2019, Kronos had substantial net assets denominated in the euro, Canadian dollar and Norwegian krone.

Critical accounting policies and estimates

Our significant accounting policies are more fully described in Note 1 to our Consolidated Financial Statements. Our Consolidated Financial Statements have been prepared in conformity with accounting principles generally accepted in the United States of America (GAAP) which requires us to make estimates, judgments and assumptions we believe are reasonable based on our historical experience, observation of known trends in our company and the industry as a whole and information available from other outside sources. Our estimates affect the reported amounts of assets and liabilities and related disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expense during the reporting period. Actual results may differ significantly from those initial estimates.

We believe the most critical accounting policies and estimates involving significant judgments and estimates primarily relate to contingencies, certain long-lived assets, considerations in the recoverability and impairment assessments for goodwill and defined benefit pension plans. We have discussed the development, selection and disclosure of our critical accounting estimates with the Audit Committee of our Board of Directors.

- ***Contingencies*** - We record accruals for environmental, legal and other contingencies and commitments when estimated future expenditures associated with such contingencies become probable, and the amounts can be reasonably estimated. However, new information may become available, or circumstances (such as applicable laws and regulations) may change, thereby resulting in an increase or decrease in the amount required to be accrued for such matters (and therefore a decrease or increase in reported net income in the period of such change).

Obligations for environmental remediation costs are difficult to assess and estimate and it is possible that actual costs for environmental remediation will exceed accrued amounts or that costs will be

incurred in the future for sites in which we cannot currently estimate our liability. If these events were to occur in 2020, our corporate expenses would be higher than we currently estimate. In addition, we adjust our environmental accruals as further information becomes available to us or as circumstances change. Such further information or changed circumstances could result in an increase in our accrued environmental costs. See Note 17 to our Consolidated Financial Statements.

- *Long-lived assets* - The net book value of our property and equipment totaled \$31.0 million at December 31, 2019, all of which relates to CompX. We assess property and equipment for impairment only when circumstances indicate an impairment may exist. Our determination is based upon, among other things, our estimates of the amount of future net cash flows to be generated by the long-lived asset (Level 3 inputs) and our estimates of the current fair value of the asset.

Significant judgment is required in estimating such cash flows. Adverse changes in such estimates of future net cash flows or estimates of fair value could result in an inability to recover the carrying value of the long-lived asset, thereby possibly requiring an impairment charge to be recognized in the future. We do not assess our property and equipment for impairment unless certain impairment indicators are present. We did not evaluate any long-lived assets for impairment during 2019 because no such impairment indicators were present.

- *Goodwill* - Our net goodwill totaled \$27.2 million at December 31, 2019, all related to CompX's Security Products reporting unit. Goodwill is required to be tested annually or at other times whenever an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. CompX performs its annual goodwill impairment test in the third quarter of each year. In addition, adverse industry or economic trends, lower projections of profitability, or a sustained decline in CompX's market capitalization, among other items, may be indications of potential impairment issues which are triggering events requiring the testing of an asset's carrying value for recoverability. An entity may first assess qualitative factors to determine whether it is necessary to complete the two-step quantitative impairment test using a more-likely-than-not criteria. If an entity believes it is more-likely-than-not the fair value of a reporting unit is greater than its carrying value, including goodwill, the two-step quantitative impairment test can be bypassed. Alternatively, an entity has an unconditional option to bypass the qualitative assessment and proceed directly to performing the two-step quantitative impairment test.

When performing a qualitative assessment considerable management judgment is necessary to evaluate the qualitative impact of events and circumstances on the fair value of a reporting unit. Events and circumstances considered in our impairment evaluations, such as historical profits and stability of the markets served, are consistent with factors utilized with our internal projections and operating plan. However, future events and circumstances could result in materially different findings which could result in the recognition of a material goodwill impairment.

Evaluations of possible impairment utilizing the two-step quantitative impairment test require CompX to estimate, among other factors: forecasts of future operating results, revenue growth, operating margin, tax rates, capital expenditures, depreciation, working capital, weighted average cost of capital, long-term growth rates, risk premiums, terminal values, and fair values of reporting units and assets. The goodwill impairment test is subject to uncertainties arising from such events as changes in competitive conditions, the current general economic environment, material changes in growth rate assumptions that could positively or negatively impact anticipated future operating conditions and cash flows, changes in the discount rate, and the impact of strategic decisions. If any of these factors were to materially change such change may require revaluation of the reported goodwill. Changes in estimates or the application of alternative assumptions could produce significantly different results.

In 2019, CompX used the qualitative assessment for its annual impairment test and determined it was not necessary to perform the quantitative goodwill impairment test, as it concluded it is more-likely-than-not the fair value of the Security Products reporting unit exceeded its carrying amount. See Notes 1 and 7 to our Consolidated Financial Statements.

- *Defined benefit pension plans* - We maintain a defined benefit pension plan in the U.S. and a plan in the United Kingdom (U.K.) See Note 11 to our Consolidated Financial Statements. We recognized consolidated defined benefit pension plan expense of \$1.1 million in 2017, \$.7 million in 2018 and \$1.6 million in 2019. The funding requirements for these defined benefit pension plans are generally based upon applicable regulations (such as ERISA in the U.S.) and will generally differ from pension expense recognized under GAAP for financial reporting purposes. We made contributions to our plans of approximately \$1.0 million in 2017, \$2.8 million in 2018 and \$3.2 million in 2019.

Under defined benefit pension plan accounting, defined benefit pension plan expense and prepaid and accrued pension costs are each recognized based on certain actuarial assumptions, principally the assumed discount rate, the assumed long-term rate of return on plan assets and the assumed increase in future compensation levels. We recognize the full funded status of our defined benefit pension plans as either an asset (for overfunded plans) or a liability (for underfunded plans) in our Consolidated Balance Sheet.

The discount rates we use for determining defined benefit pension expense and the related pension obligations are based on current interest rates earned on long-term bonds that receive one of the two highest ratings given by recognized rating agencies in the applicable country where the defined benefit pension benefits are being paid. In addition, we receive third-party advice about appropriate discount rates, and these advisors may in some cases use their own market indices. We adjust these discount rates as of each December 31 valuation date to reflect then-current interest rates on such long-term bonds. We use these discount rates to determine the actuarial present value of the pension obligations as of December 31 of that year. We also use these discount rates to determine the interest component of defined benefit pension expense for the following year.

At December 31, 2019, our projected benefit obligations for defined benefit plans comprised \$42.2 million related to the U.S. plan and \$8.2 million for the U.K. plan, which is associated with a former disposed business. We use different discount rate assumptions in determining our defined benefit pension plan obligations and expense for the plans we maintain in the United States and the U.K. as the interest rate environment differs from country to country.

We used the following discount rates for our defined benefit pension plans:

	Discount rates used for:		
	Obligations at December 31, 2017 and expense in 2018	Obligations at December 31, 2018 and expense in 2019	Obligations at December 31, 2019 and expense in 2020
United States	3.5%	4.1%	3.1%
United Kingdom	2.8%	2.8%	2.0%

The assumed long-term rate of return on plan assets represents the estimated average rate of earnings expected to be earned on the funds invested or to be invested from the plans' assets provided to fund the benefit payments inherent in the projected benefit obligations. Unlike the discount rate, which is adjusted each year based on changes in current long-term interest rates, the assumed long-term rate of return on plan assets will not necessarily change based upon the actual short-term performance of the plan assets in any given year. Defined benefit pension expense each year is based upon the assumed long-term rate of return on plan assets for each plan, the actual fair value of the plan assets as of the beginning of the year and an estimate of the amount of contributions to and distributions from the plan during the year. Differences between the expected return on plan assets for a given year and the actual return are deferred and amortized over future periods based on the average remaining life expectancy of the inactive participants.

At December 31, 2019, approximately 73% of the plan assets were related to our plan in the U.S., with the remainder related to the U.K. plan. We use different long-term rates of return on plan asset assumptions for our U.S. and U.K. defined benefit pension plan expense because the respective plan assets are invested in a different mix of investments and the long-term rates of return for different investments differ from country to country.

In determining the expected long-term rate of return on plan asset assumptions, we consider the long-term asset mix (e.g. equity vs. fixed income) for the assets for each of our plans and the expected long-term rates of return for such asset components. In addition, we receive third-party advice about appropriate long-term rates of return. See Note 11 to our Consolidated Financial Statements.

Our assumed long-term rates of return on plan assets for 2017, 2018 and 2019 were as follows:

	<u>2017</u>	<u>2018</u>	<u>2019</u>
United States	7.5%	7.5%	5.5%
United Kingdom	5.0%	6.5%	2.8%

Our long-term rate of return on plan asset assumptions in 2020 used for purposes of determining our 2020 defined benefit pension plan expense is 4.5% for the U.S. plan and 3.3% for the U.K. plan.

In addition to the actuarial assumptions discussed above, because we maintain a defined benefit pension plan in the U.K., the amount of recognized defined benefit pension expense and the amount of net pension asset and net pension liability will vary based upon relative changes in currency exchange rates.

Based on the actuarial assumptions described above and our current expectation for what actual average currency exchange rates will be during 2020, we expect to recognize defined benefit pension expense of approximately \$1.1 million in 2020. In comparison, we expect to be required to contribute approximately \$2.0 million to such plans during 2020.

As noted above, defined benefit pension expense and the amounts recognized as accrued pension costs are based upon the actuarial assumptions discussed above. We believe that all of the actuarial assumptions used are reasonable and appropriate. However, if we had lowered the assumed discount rate by 25 basis points for each of our plans as of December 31, 2019, our aggregate projected benefit obligations would have increased by approximately \$1.0 million at that date. Such a change would not materially impact our defined benefit pension expense for 2020. Similarly, if we lowered the assumed long-term rate of return on plan assets by 25 basis points for our plans, such a change would not materially impact our defined benefit pension expense for 2020.

LIQUIDITY AND CAPITAL RESOURCES

Consolidated cash flows

Operating activities

Trends in cash flows from operating activities, excluding the impact of deferred taxes and relative changes in assets and liabilities, are generally similar to trends in our income (loss) from operations. Changes in working capital are primarily related to changes in receivables and inventories (as discussed below) and payables and accrued liabilities. Net cash provided by operating activities was \$27.4 million in 2019 compared to \$17.1 million in 2018. The \$10.3 million net increase in cash provided by operating activities includes the net effects of:

- a cash payment of \$25.0 million for the first installment of the litigation settlement discussed in Note 17 to our Consolidated Financial Statements;
- lower net cash used for relative changes in receivables, inventories, prepaid expenses, payables and accrued liabilities in 2019 of \$17.9 million primarily due to the reclassification of \$15.6 million from accrued insurance recovery receivable to noncurrent restricted cash;
- lower cash paid for environmental remediation and related costs in 2019 of \$13.3 million related to settlement of an environmental site in 2018;
- higher cash received for insurance recoveries in 2019 of \$4.2 million;
- lower cash received for income taxes in 2019 of \$1.6 million;

- higher dividends received from Kronos in 2019 of \$1.5 million; and
- a \$1.1 million increase in interest received in 2019.

Net cash provided by operating activities was \$17.1 million in 2018 compared to \$18.6 million in 2017. The \$1.5 million net decrease in cash provided by operating activities includes the net effects of:

- higher cash paid for environmental remediation and related costs in 2018 of \$8.3 million related to the settlement of an environmental site;
- higher net cash used for relative changes in receivables (excluding insurance recoveries), inventories, prepaid expenses, payables and accrued liabilities in 2018 of \$.5 million;
- lower cash paid for taxes in 2018 of \$4.8 million primarily due to the impact of the lower U.S. federal corporate income tax rate and the timing of tax payments;
- higher dividends received from Kronos in 2018 of \$2.8 million; and
- higher income from operations of CompX in 2018 of \$2.6 million.

We do not have complete access to CompX's cash flows in part because we do not own 100% of CompX. A detail of our consolidated cash flows from operating activities is presented in the table below. Intercompany dividends have been eliminated. The reference to NL Parent in the tables below is a reference to NL Industries, Inc., as the parent company of CompX and our other wholly-owned subsidiaries.

	Years ended December 31,		
	2017	2018	2019
	(In millions)		
Net cash provided by (used in) operating activities:			
CompX	\$ 12.6	\$ 17.2	\$ 18.5
NL Parent and wholly-owned subsidiaries	8.2	2.1	11.9
Eliminations	(2.2)	(2.2)	(3.0)
Total	<u>\$ 18.6</u>	<u>\$ 17.1</u>	<u>\$ 27.4</u>

Relative changes in working capital can have a significant effect on cash flows from operating activities. As shown below, our total average days sales outstanding decreased from December 31, 2018 to December 31, 2019 primarily as a result of the timing of sales and collections in the last month of 2019 as compared to 2018. As shown below, our average number of days in inventory at December 31, 2019 is comparable to December 31, 2018. For comparative purposes, we have provided 2017 numbers below.

	2017	2018	2019
Days sales outstanding	38 days	40 days	36 days
Days in inventory	79 days	80 days	81 days

Investing activities

Capital expenditures, substantially all of which relate to CompX, have primarily emphasized improving manufacturing facilities and investing in manufacturing equipment, utilizing new technologies and increased automation of the manufacturing process, to provide for increased productivity and efficiency in order to meet expected customer demand and properly maintain facilities and technology infrastructure. Capital expenditures were \$2.8 million in 2017, \$3.1 million in 2018, and \$3.2 million in 2019.

Investing activities also include net loans by CompX to Valhi of \$10.8 million (\$52.1 million gross borrowings and \$41.3 million of gross repayments) in 2017, net collections of \$4.2 million (\$46.8 million of gross borrowings and \$51.0 million of gross repayments) in 2018 and net collections of \$5.9 million (\$34.9 million of gross borrowings and \$40.8 million of gross repayments) in 2019 under a promissory note receivable from an affiliate. See Note 16 to our Consolidated Financial Statements.

During 2019, investing activities also included proceeds from a sale of excess property of \$4.6 million in the third quarter and net proceeds from the sale of our insurance and risk management business of \$2.9 million in the fourth quarter.

Financing activities

Cash flows from financing activities include CompX dividends paid to its stockholders other than us aggregating \$3 million in each of 2017 and 2018 and \$.5 million in 2019.

On February 19, 2020 our board of directors declared a first quarter 2020 dividend of \$.04 per share, to be paid on March 17, 2020 to NL stockholders of record as of March 3, 2020. The declaration and payment of future dividends, and the amount thereof, is discretionary and is dependent upon these and other factors deemed relevant by our Board of Directors. The amount and timing of past dividends is not necessarily indicative of the amount or timing of any future dividends which might be paid. There are currently no contractual restrictions on the amount of dividends which we may pay. Distributions to noncontrolling interests consist of CompX dividends paid to shareholders other than us.

Outstanding debt obligations

At December 31, 2019, NL had outstanding debt obligations of \$.5 million under its secured revolving credit facility with Valhi, and CompX did not have any outstanding debt obligations. We are in compliance with all of the covenants contained in our revolving credit facility with Valhi at December 31, 2019. See Note 10 to our Consolidated Financial Statements.

Kronos' North American and European revolvers and its senior secured notes contain a number of covenants and restrictions which, among other things, restrict its ability to incur additional debt, incur liens, pay dividends or merge or consolidate with, or sell or transfer substantially all of its assets to, another entity, and contains other provisions and restrictive covenants customary in lending transactions of this type. Certain of Kronos' credit agreements contain provisions which could result in the acceleration of indebtedness prior to their stated maturity for reasons other than defaults for failure to comply with typical financial or payment covenants. For example, certain credit agreements allow the lender to accelerate the maturity of the indebtedness upon a change of control (as defined in the agreement) of the borrower. In addition, certain credit agreements could result in the acceleration of all or a portion of the indebtedness following a sale of assets outside the ordinary course of business. Kronos' European revolving credit facility also requires the maintenance of certain financial ratios, and one of such requirements is based on the ratio of net debt to the last twelve months EBITDA of the borrowers. Kronos is in compliance with all of its debt covenants at December 31, 2019. Kronos believes that it will be able to continue to comply with the financial covenants contained in its credit facilities through their maturity.

Future cash requirements

Liquidity

Our primary source of liquidity on an ongoing basis is our cash flow from operating activities and credit facilities with affiliates and banks as further discussed below. We generally use these amounts to fund capital expenditures (substantially all of which relate to CompX), pay ongoing environmental remediation and litigation costs, and provide for the payment of dividends (if declared).

At December 31, 2019, we had aggregate cash, cash equivalents and restricted cash of \$157.9 million, substantially all of which was held in the U.S. A detail (in millions) by entity is presented in the table below.

CompX	\$	63.3
NL Parent and wholly-owned subsidiaries		<u>94.6</u>
Total	\$	<u>157.9</u>

In addition, at December 31, 2019 we owned 14.4 million shares of Valhi common stock with an aggregate market value of \$26.9 million. See Note 5 to our Consolidated Financial Statements. We also owned 35.2 million shares of Kronos common stock at December 31, 2019 with an aggregate market value of \$471.9 million. See Note 6 to our Consolidated Financial Statements.

We routinely compare our liquidity requirements and alternative uses of capital against the estimated future cash flows we expect to receive from our subsidiaries and affiliates. As a result of this process, we have in the past and may in the future seek to raise additional capital, incur debt, repurchase indebtedness in the market or otherwise, modify our dividend policies, consider the sale of our interests in our subsidiaries, affiliates, business, marketable securities or other assets, or take a combination of these and other steps, to increase liquidity, reduce indebtedness and fund future activities. Such activities have in the past and may in the future involve related companies.

We periodically evaluate acquisitions of interests in or combinations with companies (including related companies) perceived by management to be undervalued in the marketplace. These companies may or may not be engaged in businesses related to our current businesses. We intend to consider such acquisition activities in the future and, in connection with this activity, may consider issuing additional equity securities and increasing indebtedness. From time to time, we also evaluate the restructuring of ownership interests among our respective subsidiaries and related companies.

Based upon our expectations of operating performance, and the anticipated demands on our cash resources we expect to have sufficient liquidity to meet our short-term obligations (defined as the twelve-month period ending December 31, 2020). If actual developments differ materially from our expectations, our liquidity could be adversely affected. In this regard, Valhi has agreed to loan us up to \$50 million on a revolving basis. At December 31, 2019, we had \$.5 million in outstanding borrowings under this facility, and we had \$49.5 million available for future borrowing under the facility. See Note 10 to our Consolidated Financial Statements.

Capital expenditures

Capital expenditures for 2020 are estimated at approximately \$4 million, substantially all of which relate to CompX. Capital spending for 2020 is expected to be funded through cash on hand and cash generated from operations.

Dividends

Because our operations are conducted primarily through subsidiaries and affiliates, our long-term ability to meet parent company-level corporate obligations is largely dependent on the receipt of dividends or other distributions from our subsidiaries and affiliates. A detail of annual dividends we expect to receive from our subsidiaries and affiliates in 2020, based on the number of shares of common stock of these affiliates we own as of December 31, 2019 and their current regular quarterly dividend rate, is presented in the table below. In this regard,

in February 2020 CompX increased its regular quarterly dividend from \$.07 to \$.10 per share, beginning with its dividend payable in March 2020.

	<u>Shares held at December 31, 2019</u> (In millions)	<u>Quarterly dividend rate</u>	<u>Annual expected dividend</u> (In millions)
Kronos	35.2	\$.18	\$ 25.4
CompX	10.8	.10	4.3
Valhi	14.4	.02	1.1
Total expected annual dividends			<u>\$ 30.8</u>

Investments in our subsidiaries and affiliates and other acquisitions

We have in the past and may in the future, purchase the securities of our subsidiaries and affiliates or third-parties in market or privately-negotiated transactions. We base our purchase decisions on a variety of factors, including an analysis of the optimal use of our capital, taking into account the market value of the securities and the relative value of expected returns on alternative investments. In connection with these activities, we may consider issuing additional equity securities or increasing our indebtedness. We may also evaluate the restructuring of ownership interests of our businesses among our subsidiaries and related companies.

Off balance sheet financing arrangements

We do not have any material off-balance sheet financing arrangements.

Commitments and contingencies

We are subject to certain commitments and contingencies, as more fully described in Note 17 to our Consolidated Financial Statements or in Part I, Item 3 of this report. In addition to those legal proceedings described in Note 17 to our Consolidated Financial Statements, various legislation and administrative regulations have, from time to time, been proposed that seek to (i) impose various obligations on present and former manufacturers of lead pigment and lead-based paint (including us) with respect to asserted health concerns associated with the use of such products and (ii) effectively overturn court decisions in which we and other pigment manufacturers have been successful. Examples of such proposed legislation include bills which would permit civil liability for damages on the basis of market share, rather than requiring plaintiffs to prove that the defendant's product caused the alleged damage and bills which would revive actions barred by the statute of limitations. While no legislation or regulations have been enacted to date that are expected to have a material adverse effect on our consolidated financial position, results of operations or liquidity, enactment of such legislation could have such an effect.

As more fully described in the Notes to our Consolidated Financial Statements, we are party to various debt, leases and other agreements which contractually and unconditionally commit us to pay certain amounts in the future. See Note 10 to our Consolidated Financial Statements. The following table summarizes our contractual commitments as of December 31, 2019 by the type and date of payment.

Contractual commitment	Payment due date				
	2020	2021/2022	2023/2024	2025 and after	Total
	(In millions)				
Indebtedness: principal payments	\$ -	\$ -	\$.5	\$ -	\$.5
Legal settlement	12.0	24.0	24.0	16.7	76.7
Operating leases	.1	.1	-	-	.2
Purchase obligations	12.2	.1	-	-	12.3
Fixed asset acquisitions	.2	-	-	-	.2
	<u>\$ 24.5</u>	<u>\$ 24.2</u>	<u>\$ 24.5</u>	<u>\$ 16.7</u>	<u>\$ 89.9</u>

The timing and amount shown for principal payments on our outstanding indebtedness (which consists of our secured revolving credit facility with Valhi) is based on the contractual maturity date of such indebtedness. Interest expense associated with such outstanding indebtedness at December 31, 2019 is not material. The amount shown for our commitments related to legal settlement, operating leases and fixed asset acquisitions are based upon the contractual payment amount and the contractual payment date for such commitments. The timing and amount shown for purchase obligations, which consist of all open purchase orders and contractual obligations (primarily commitments to purchase raw materials) is also based on the contractual payment amount and the contractual payment date for such commitments. Fixed asset acquisitions include firm purchase commitments for capital projects.

The above table does not include:

- Amounts we might pay to fund our defined benefit pension and OPEB plans, as the timing and amount of any such future fundings are unknown and dependent on, among other things, the future performance of defined benefit pension plan assets, interest rate assumptions and actual future retiree medical costs. Our defined benefit pension plans are discussed in greater detail in Note 11 to our Consolidated Financial Statements. We currently expect we will be required to contribute an aggregate of \$2.0 million to our defined benefit pension plans during 2020, as discussed in further detail above.
- Any amounts that we might pay to settle any of our uncertain tax positions, as the timing and amount of any such future settlements are unknown and dependent on, among other things, the timing of tax audits. See Note 14 to our Consolidated Financial Statements.

Recent accounting pronouncements

See Note 19 to our Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

General - We are exposed to market risk from changes in currency exchange rates, interest rates, raw materials and equity security prices.

Interest rates - We are exposed to market risk from changes in interest rates, primarily related to our indebtedness. We have an outstanding principal amount of indebtedness of \$.5 million at December 31, 2019 bearing interest at prime plus 1.875% (6.63% at December 31, 2019) with a maturity date of December 31, 2023. The carrying value of such outstanding indebtedness approximates its fair value.

We are also exposed to market risk from changes in interest rates, primarily related to CompX's note receivable from affiliate. The outstanding principal amount of indebtedness of \$28.1 million at December 31, 2019 bears interest at prime plus 1.0% (5.75% at December 31, 2019). We received interest income of \$2.4 million from the note during 2019.

Marketable security prices - We are exposed to market risk due to changes in prices of the marketable securities which we own. The fair value of our equity securities at December 31, 2018 and 2019 was \$27.7 million and \$26.9 million, respectively. The potential change in the aggregate fair value of these investments, assuming a 10% change in prices, would be \$2.8 million and \$2.7 million at December 31, 2018 and 2019, respectively.

Raw materials - CompX will occasionally enter into short-term raw material arrangements to mitigate the impact of future increases in raw material costs. Otherwise, we generally do not have long-term supply agreements for our raw material requirements because either we believe the risk of unavailability of those raw materials is low and we believe the price to be stable or because long-term supply agreements for those materials are generally not available. We do not engage in commodity hedging programs.

Other - The discussion and sensitivity analysis presented above include forward-looking statements of market risk which assume hypothetical changes in market prices. Actual future market conditions will likely differ materially from such assumptions. Accordingly, such forward-looking statements should not be considered to be projections of future events, gains or losses. Such forward-looking statements are subject to certain risks and uncertainties, some of which are listed in "Business."

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information called for by this Item is contained in a separate section of this Annual Report. See "Index of Financial Statements" (page F-1).

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

We maintain disclosure controls and procedures which, as defined in Exchange Act Rule 13a-15(e), means controls and other procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit to the SEC under the Securities Exchange Act of 1934, as amended (the Act), is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information we are required to disclose in the reports we file or submit to the SEC under the Act is accumulated and communicated to our management, including our principal executive officer and our principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions to be made regarding required disclosure. Each of Robert D. Graham, our Vice Chairman of the Board and Chief Executive Officer and Amy Allbach

Samford, our Vice President and Chief Financial Officer, have evaluated the design and effectiveness of our disclosure controls and procedures as of December 31, 2019. Based upon their evaluation, these executive officers have concluded that our disclosure controls and procedures are effective as of the date of this evaluation.

Management’s report on internal control over financial reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting which, as defined by Exchange Act Rule 13a-15(f) means a process designed by, or under the supervision of, our principal executive and principal financial officers, or persons performing similar functions, and effected by the board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles (“GAAP”), and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets,
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures are being made only in accordance with authorizations of management and directors, and
- provide reasonable assurance regarding prevention or timely detection of an unauthorized acquisition, use or disposition of assets that could have a material effect on our Consolidated Financial Statements.

Our evaluation of the effectiveness of internal control over financial reporting is based upon the framework established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013 (commonly referred to as the “2013 COSO” framework). Based on our evaluation under that framework, we have concluded that our internal control over financial reporting was effective as of December 31, 2019.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management’s report was not subject to attestation by our registered public accounting firm pursuant to rules of the SEC that permit us to provide only management’s report in this annual report.

Other

As permitted by the SEC, our assessment of internal control over financial reporting excludes (i) internal control over financial reporting of equity method investees and (ii) internal control over the preparation of any financial statement schedules which would be required by Article 12 of Regulation S-X. However, our assessment of internal control over financial reporting with respect to equity method investees did include controls over the recording of amounts related to our investment that are recorded in the consolidated financial statements, including controls over the selection of accounting methods for our investments, the recognition of equity method earnings and losses and the determination, valuation and recording of our investment account balances.

Changes in internal control over financial reporting

There have been no changes to our internal control over financial reporting during the quarter ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Certifications

Our chief executive officer is required to annually file a certification with the New York Stock Exchange (NYSE), certifying our compliance with the corporate governance listing standards of the NYSE. During 2019, our chief executive officer filed such annual certification with the NYSE. The 2019 certification was unqualified.

Our chief executive officer and chief financial officer are also required to, among other things, quarterly file certifications with the SEC regarding the quality of our public disclosures, as required by Section 302 of the Sarbanes-Oxley Act of 2002. We have filed the certifications for the quarter ended December 31, 2019 as Exhibits 31.1 and 31.2 to this Annual Report on Form 10-K.

ITEM 9B. OTHER INFORMATION

Not applicable

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated by reference to our 2020 definitive proxy statement to be filed with the SEC pursuant to Regulation 14A within 120 days after the end of the fiscal year covered by this report.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference to our 2020 proxy statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated by reference to our 2020 proxy statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference to our 2020 proxy statement. See also Note 16 to our Consolidated Financial Statements.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The Information required by this Item is incorporated by reference to our 2020 proxy statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) and (c) Financial Statements

The Registrant

The consolidated financial statements of the Registrant listed on the accompanying Index of Financial Statements (see page F-1) are filed as part of this Annual Report.

50%-or-less persons

The consolidated financial statements of Kronos (30%-owned at December 31, 2019) are incorporated by reference in Exhibit 99.1 of this Annual Report pursuant to Rule 3-09 of Regulation S-X. Management's Report on Internal Control Over Financial Reporting of Kronos is not included as part of Exhibit 99.1. The Registrant is not required to provide any other consolidated financial statements pursuant to Rule 3-09 of Regulation S-X.

(b) Exhibits

We have included as exhibits the items listed in the Exhibit Index. We will furnish a copy of any of the exhibits listed below upon payment of \$4.00 per exhibit to cover our cost to furnish the exhibits. Pursuant to Item 601(b)(4)(iii) of Regulation S-K, any instrument defining the rights of holders of long-term debt issues and other agreements related to indebtedness which do not exceed 10% of consolidated total assets as of December 31, 2019 will be furnished to the Commission upon request.

Item No.	Exhibit Index
3.1	Certificate of Amended and Restated Certificate of Incorporation dated May 22, 2008 - incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K (File No. 001-00640) filed with the U.S. Securities and Exchange Commission on May 23, 2008.
3.2	Amended and Restated Bylaws of NL Industries, Inc. as of May 23, 2008 - incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K (File No. 001-00640) filed with the U.S. Securities and Exchange Commission on May 23, 2008.
4.1**	Description of the Registrant's Capital Stock.
10.1	Lease Contract dated June 21, 1952, between Farbenfabriken Bayer Aktiengesellschaft and Titangesellschaft mit beschränkter Haftung (German language version and English translation thereof) - incorporated by reference to Exhibit 10.14 to the Registrant's Annual Report on Form 10-K (File No. 001-00640) for the year ended December 31, 1985. (P)
10.2	Formation Agreement dated as of October 18, 1993 among Tioxide Americas Inc., Kronos Louisiana, Inc. and Louisiana Pigment Company, L.P. - incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)
10.3	Joint Venture Agreement dated as of October 18, 1993 between Tioxide Americas Inc. and Kronos Louisiana, Inc. - incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)
10.4	Kronos Offtake Agreement dated as of October 18, 1993 between Kronos Louisiana, Inc. and Louisiana Pigment Company, L.P. - incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)

Item No.	Exhibit Index
10.5	Amendment No. 1 to Kronos Offtake Agreement dated as of December 20, 1995 between Kronos Louisiana, Inc. and Louisiana Pigment Company, L.P. - incorporated by reference to Exhibit 10.22 to the Registrant's Annual Report on Form 10-K (File No. 001-00640) for the year ended December 31, 1995.
10.6	Tioxide Americas Offtake Agreement dated as of October 18, 1993 between Tioxide Americas Inc. and Louisiana Pigment Company, L.P. - incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)
10.7	Amendment No. 1 to Tioxide Americas Offtake Agreement dated as of December 20, 1995 between Tioxide Americas Inc. and Louisiana Pigment Company, L.P. - incorporated by reference to Exhibit 10.24 to the Registrant's Annual Report on Form 10-K (File No. 001-00640) for the year ended December 31, 1995.
10.8	Parents' Undertaking dated as of October 18, 1993 between ICI American Holdings Inc. and Kronos Worldwide, Inc. (f/k/a Kronos, Inc.) - incorporated by reference to Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)
10.9	Allocation Agreement dated as of October 18, 1993 between Tioxide Americas Inc., ICI American Holdings, Inc., Kronos Worldwide, Inc. (f/k/a Kronos, Inc.) and Kronos Louisiana, Inc. - incorporated by reference to Exhibit 10.10 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended September 30, 1993. (P)
10.10	Form of Assignment and Assumption Agreement, dated as of January 1, 1999, between Kronos Inc. (formerly known as Kronos (USA), Inc.) and Kronos International, Inc. - incorporated by reference to Exhibit 10.9 to Kronos International, Inc.'s Registration Statement on Form S-4 (File No. 333-100047).
10.11	Form of Cross License Agreement, effective as of January 1, 1999, between Kronos Inc. (formerly known as Kronos (USA), Inc.) and Kronos International, Inc. - incorporated by reference to Exhibit 10.10 to Kronos International, Inc.'s Registration Statement on Form S-4 (File No. 333-100047).
10.12**	Unsecured Revolving Demand Promissory Note dated December 31, 2019 in the original principal amount of \$60.0 million executed by Valhi, Inc. and payable to the order of Kronos Worldwide, Inc.
10.13	Restated and Amended Agreement by and between Richards Bay Titanium (Proprietary) Limited (acting through its sales agent Rio Tinto Iron & Titanium Limited) and Kronos (US), Inc. effective January 1, 2016 – incorporated by reference to Exhibit 10.26 to the Kronos Worldwide, Inc. Annual Report on Form 10-K (File No. 001-31763) for the year ended December 31, 2015.
10.17 *	Kronos Worldwide, Inc. 2012 Director Stock Plan - incorporated by reference to Exhibit 4.4 of Kronos Worldwide, Inc. Registration statement on Form S-8 (File No. 333-113425). Filed on May 31, 2012.
10.18 *	CompX International Inc. 2012 Director Stock Plan - incorporated by reference to Exhibit 10.2 of CompX International Inc.'s Annual Report on Form 10-K (File No. 001-00640) for the year ended December 31, 2012.
10.19 *	NL Industries, Inc. 2012 Director Stock Plan - incorporated by reference to Exhibit 4.4 of Registrant's statement on Form S-8 (File No. 001-00640) Filed on May 31, 2012.
10.20	Second Amended and Restated Agreement Regarding Shared Insurance among CompX International Inc., Contran Corporation, Kronos Worldwide, Inc., NL Industries, Inc. and Valhi, Inc. dated January 25, 2019 – incorporated by reference to Exhibit 10.20 to the Registrant's Annual Report on Form 10-K (File No. 001-00640) for the year ended December 31, 2018.
10.21	Intercorporate Services Agreement by and between Contran Corporation and Kronos Worldwide, Inc. - incorporated by reference to Exhibit 10.1 to the Kronos Worldwide, Inc. Quarterly Report on Form 10-Q (File No. 001-31763) for the quarter ended March 31, 2004.

Item No.	Exhibit Index
10.22	Intercorporate Services Agreement between CompX International Inc. and Contran Corporation effective as of January 1, 2004 - incorporated by reference to Exhibit 10.2 to the CompX International Inc. Annual Report on Form 10-K (File No. 1-13905) for the year ended December 31, 2003.
10.23	Intercorporate Services Agreement by and between Contran Corporation and NL Industries, Inc. effective as of January 1, 2004 - incorporated by reference to Exhibit 10.1 to the NL Industries, Inc. Quarterly Report on Form 10-Q (File No. 001-00640) for the quarter ended March 31, 2004.
10.24**	Tax Agreement between Valhi, Inc. and Kronos Worldwide, Inc. dated as of January 1, 2020.
10.25**	Tax Agreement among NL Industries, Inc., Valhi, Inc. and Contran Corporation dated as of January 1, 2020.
10.26	Unsecured Revolving Demand Promissory Note dated December 31, 2019 in the original principal amount of \$40.0 million executed by Valhi, Inc. and payable to the order of CompX International Inc. - incorporated by reference to Exhibit 10.5 to the Annual Report on Form 10-K of CompX International Inc. (File No. 1-13905) for the year ended December 31, 2019.
10.27	Loan Agreement between NLKW Holding, LLC, as Borrower, and Valhi, Inc., as Lender, dated as of November 14, 2016 incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-00640) of the Registrant dated November 14, 2016 and filed on November 15, 2016.
10.28	Pledge and Security Agreement made by and between NLKW Holding, LLC in favor of Valhi, Inc., dated as of November 14, 2016 incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 001-00640) of the Registrant dated November 14, 2016 and filed on November 15, 2016.
10.29	Back-to-Back Loan Agreement between the registrant, as Borrower, and NLKW Holding, LLC, as Lender, dated as of November 14, 2016 incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K (File No. 001-00640) of the Registrant dated November 14, 2016 and filed on November 15, 2016.
10.30	Back-to-Back Pledge and Security Agreement made by and between the registrant in favor of Valhi, Inc., dated as of November 14, 2016 incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K (File No. 001-00640) of the Registrant dated November 14, 2016 and filed on November 15, 2016.
10.31	Indenture, dated as of September 13, 2017, among Kronos International, Inc., the guarantors named therein, and Deutsche Bank Trust Company Americas, as trustee, collateral agent, paying agent, transfer agent and registrar – incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K (File No. 001-31763) of Kronos Worldwide, Inc. dated September 13, 2017 and filed on September 13, 2017.
10.32	Pledge Agreement, dated as of September 13, 2017, among Kronos International, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as collateral agent – incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K (File No. 001-31763) of Kronos Worldwide, Inc. dated September 13, 2017 and filed on September 13, 2017.
21.1 **	Subsidiaries of the Registrant
23.1 **	Consent of PricewaterhouseCoopers LLP with respect to NL’s consolidated financial statements.
23.2 **	Consent of PricewaterhouseCoopers LLP with respect to Kronos’ consolidated financial statements.
31.1 **	Certification
31.2 **	Certification
32.1 **	Certification

Item No.	Exhibit Index
99.1	Consolidated financial statements of Kronos Worldwide, Inc. - incorporated by reference to Kronos' Annual Report on Form 10-K (File No. 1-31763) for the year ended December 31, 2019.
101.INS **	XBRL Instance Document
101.SCH **	XBRL Taxonomy Extension Schema
101.CAL **	XBRL Taxonomy Extension Calculation Linkbase
101.DEF **	XBRL Taxonomy Extension Definition Linkbase
101.LAB **	XBRL Taxonomy Extension Label Linkbase
101.PRE **	XBRL Taxonomy Extension Presentation Linkbase
*	Management contract, compensatory plan or arrangement.
**	Filed herewith
(P)	Paper exhibits

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

NL Industries, Inc.
(Registrant)

By: /s/ Robert D. Graham
Robert D. Graham, March 11, 2020
(Vice Chairman and Chief Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

/s/ Loretta J. Feehan
Loretta J. Feehan, March 11, 2020
(Chair of the Board (non-executive))

/s/ John E. Harper
John E. Harper, March 11, 2020
(Director)

/s/ Robert D. Graham
Robert D. Graham, March 11, 2020
(Vice Chairman and Chief Executive Officer)

/s/ Meredith W. Mendes
Meredith W. Mendes, March 11, 2020
(Director)

/s/ Amy Allbach Samford
Amy Allbach Samford, March 11, 2020
(Vice President and Chief Financial Officer,
Principal Financial Officer)

/s/ C. H. Moore, Jr.
C. H. Moore, Jr., March 11, 2020
(Director)

/s/ Patty S. Brinda
Patty S. Brinda, March 11, 2020
(Vice President and Controller,
Principal Accounting Officer)

/s/ Thomas P. Stafford
Thomas P. Stafford, March 11, 2020
(Director)

NL INDUSTRIES, INC.
Annual Report on Form 10-K
Items 8, 15(a) and 15(c)
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All financial statement schedules have been omitted either because they are not applicable or required, or the information that would be required to be included is disclosed in the Notes to the Consolidated Financial Statements.



Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of NL Industries, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of NL Industries, Inc. and its subsidiaries (the "Company") as of December 31, 2019 and 2018, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders' equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP

Dallas, Texas
March 11, 2020

We have served as the Company's auditor since 1924.

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In thousands)

	December 31,	
ASSETS	2018	2019
Current assets:		
Cash and cash equivalents	\$ 116,259	\$ 129,730
Restricted cash and cash equivalents	3,727	2,695
Accrued insurance recovery related to litigation settlement	15,000	-
Accounts and other receivables, net	12,440	11,929
Receivables from affiliates	792	581
Inventories, net	17,102	18,348
Prepaid expenses and other	1,324	1,401
Total current assets	166,644	164,684
Other assets:		
Restricted cash and cash equivalents	1,003	25,445
Note receivable from affiliate	34,000	28,100
Marketable securities	27,740	26,877
Investment in Kronos Worldwide, Inc.	255,565	248,355
Goodwill	27,156	27,156
Other assets, net	3,108	5,860
Total other assets	348,572	361,793
Property and equipment:		
Land	5,151	4,940
Buildings	22,842	23,047
Equipment	67,446	67,718
Construction in progress	603	1,002
	96,042	96,707
Less accumulated depreciation	64,016	65,692
Net property and equipment	32,026	31,015
Total assets	\$ 547,242	\$ 557,492

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(In thousands, except per share data)

	December 31,	
	2018	2019
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 4,831	\$ 3,438
Accrued litigation settlement	60,000	11,830
Accrued and other current liabilities	10,854	10,601
Accrued environmental remediation and related costs	5,027	3,065
Payables to affiliates	567	801
Income taxes	44	73
	81,323	29,808
Noncurrent liabilities:		
Long-term debt from affiliate	500	500
Accrued pension costs	10,389	8,230
Accrued environmental remediation and related costs	93,184	91,443
Deferred income taxes	31,373	33,957
Long-term litigation settlement	17,000	60,081
Other	9,915	6,260
	162,361	200,471
Equity:		
NL stockholders' equity:		
Preferred stock, no par value; 5,000 shares authorized; none issued	-	-
Common stock, \$.125 par value; 150,000 shares authorized; 48,727 and 48,756 shares issued and outstanding	6,090	6,094
Additional paid-in capital	301,139	299,102
Retained earnings	225,156	251,000
Accumulated other comprehensive loss	(248,270)	(251,690)
	284,115	304,506
Total NL stockholders' equity	284,115	304,506
Noncontrolling interest in subsidiary	19,443	22,707
	303,558	327,213
Total equity	303,558	327,213
Total liabilities and equity	\$ 547,242	\$ 557,492

Commitments and contingencies (Notes 14 and 17)

See accompanying Notes to Consolidated Financial Statements.

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Years ended December 31,		
	2017	2018	2019
Net sales	\$ 112,035	\$ 118,217	\$ 124,243
Cost of sales	<u>77,210</u>	<u>79,946</u>	<u>85,280</u>
Gross margin	34,825	38,271	38,963
Selling, general and administrative expense	19,587	20,460	21,297
Other operating income (expense):			
Insurance recoveries	375	1,298	5,138
Other income, net	170	644	7,444
Litigation settlement expense, net	-	(62,000)	(19,266)
Corporate expense	<u>(14,084)</u>	<u>(18,419)</u>	<u>(12,591)</u>
Income (loss) from operations	1,699	(60,666)	(1,609)
Equity in earnings of Kronos Worldwide, Inc.	107,785	62,316	26,470
Other income (expense):			
Interest and dividend income	3,570	5,069	6,672
Marketable equity securities	-	(60,941)	(863)
Other components of net periodic pension cost	(832)	(115)	(1,375)
Interest expense	<u>(30)</u>	<u>(37)</u>	<u>(681)</u>
Income (loss) before income taxes	112,192	(54,374)	28,614
Income tax expense (benefit)	<u>(5,634)</u>	<u>(15,361)</u>	<u>579</u>
Net income (loss)	117,826	(39,013)	28,035
Noncontrolling interest in net income of subsidiary	<u>1,726</u>	<u>2,004</u>	<u>2,191</u>
Net income (loss) attributable to NL stockholders	<u>\$ 116,100</u>	<u>\$ (41,017)</u>	<u>\$ 25,844</u>
Amounts attributable to NL stockholders:			
Basic and diluted net income (loss) per share	<u>\$ 2.38</u>	<u>\$ (0.84)</u>	<u>\$ 0.53</u>
Weighted average shares used in the calculation of net income (loss) per share	<u>48,711</u>	<u>48,727</u>	<u>48,745</u>

See accompanying Notes to Consolidated Financial Statements.

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	<u>Years ended December 31,</u>		
	<u>2017</u>	<u>2018</u>	<u>2019</u>
Net income (loss)	\$ 117,826	\$ (39,013)	\$ 28,035
Other comprehensive income (loss), net of tax:			
Currency translation	11,392	(7,967)	(409)
Defined benefit pension plans	3,759	(2,335)	(2,971)
Marketable equity securities	25,596	-	-
Interest rate swap	390	-	-
Other	(28)	(162)	(40)
Total other comprehensive income (loss), net	<u>41,109</u>	<u>(10,464)</u>	<u>(3,420)</u>
Comprehensive income (loss)	158,935	(49,477)	24,615
Comprehensive income attributable to noncontrolling interest	<u>1,726</u>	<u>2,004</u>	<u>2,191</u>
Comprehensive income (loss) attributable to NL stockholders	<u>\$ 157,209</u>	<u>\$ (51,481)</u>	<u>\$ 22,424</u>

See accompanying Notes to Consolidated Financial Statements.

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

Years ended December 31, 2017, 2018 and 2019
(In thousands)

	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Noncontrolling interest in subsidiary	Total equity
	\$	\$	\$	\$	\$	\$
Balance at December 31, 2016	6,088	300,674	104,004	(232,846)	16,350	194,270
Net income	-	-	116,100	-	1,726	117,826
Other comprehensive income, net of tax	-	-	-	41,109	-	41,109
Issuance of NL common stock	1	82	-	-	-	83
Dividends paid to noncontrolling interest	-	-	-	-	(333)	(333)
Other, net	-	110	-	-	13	123
Balance at December 31, 2017	6,089	300,866	220,104	(191,737)	17,756	353,078
Change in accounting principle-ASU 2016-01	-	-	46,069	(46,069)	-	-
Balance at January 1, 2018, as adjusted	6,089	300,866	266,173	(237,806)	17,756	353,078
Net income (loss)	-	-	(41,017)	-	2,004	(39,013)
Other comprehensive loss, net of tax	-	-	-	(10,464)	-	(10,464)
Issuance of NL common stock	1	119	-	-	-	120
Dividends paid to noncontrolling interest	-	-	-	-	(335)	(335)
Other, net	-	154	-	-	18	172
Balance at December 31, 2018	6,090	301,139	225,156	(248,270)	19,443	303,558
Net income	-	-	25,844	-	2,191	28,035
Other comprehensive loss, net of tax	-	-	-	(3,420)	-	(3,420)
Issuance of NL common stock	4	96	-	-	-	100
Dividends paid to noncontrolling interest	-	-	-	-	(470)	(470)
Other, net	-	(2,133)	-	-	1,543	(590)
Balance at December 31, 2019	<u>6,094</u>	<u>299,102</u>	<u>251,000</u>	<u>(251,690)</u>	<u>22,707</u>	<u>327,213</u>

See accompanying Notes to Consolidated Financial Statements.

NL INDUSTRIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years ended December 31,		
	2017	2018	2019
Cash flows from operating activities:			
Net income (loss)	\$ 117,826	\$ (39,013)	\$ 28,035
Depreciation and amortization	3,734	3,476	3,685
Deferred income taxes	(603)	(15,178)	430
Equity in earnings of Kronos Worldwide, Inc.	(107,785)	(62,316)	(26,470)
Dividends received from Kronos Worldwide, Inc.	21,132	23,948	25,356
Net gain from sale of excess property	-	-	(4,424)
Net gain from sale of business	-	-	(3,000)
Cash funding of benefit plans in excess of net benefit plan expense	(603)	(1,875)	(1,574)
Marketable equity securities	-	60,941	863
Other, net	283	(2)	927
Change in assets and liabilities:			
Accounts and other receivables, net	(117)	(16,786)	15,487
Inventories, net	(473)	(1,846)	(1,439)
Prepaid expenses and other	(177)	(162)	(77)
Accounts payable and accrued liabilities	(1,700)	61,769	(26,365)
Income taxes	7	16	33
Accounts with affiliates	(3,041)	1,113	444
Accrued environmental remediation and related costs	(4,749)	(13,698)	(3,703)
Other noncurrent assets and liabilities, net	(5,096)	16,689	19,227
	18,638	17,076	27,435
Net cash provided by operating activities			
Cash flows from investing activities:			
Capital expenditures	(2,810)	(3,118)	(3,166)
Note receivable from affiliate:			
Loans	(52,100)	(46,800)	(34,900)
Collections	41,300	51,000	40,800
Proceeds from sale of excess property	-	-	4,636
Proceeds from sale of business	-	-	2,925
Cash, cash equivalents and restricted cash and cash equivalents of business at time of sale	-	-	(504)
Other	4	225	125
	(13,606)	1,307	9,916
Net cash provided by (used in) investing activities			
Cash flows from financing activities -			
Distributions to noncontrolling interests in subsidiary	(333)	(335)	(470)
Cash, cash equivalents and restricted cash and cash equivalents			
- net change from:			
Operating, investing and financing activities	4,699	18,048	36,881
Balance at beginning of year	98,242	102,941	120,989
Balance at end of year	\$ 102,941	\$ 120,989	\$ 157,870
Supplemental disclosures:			
Cash paid for (received):			
Interest	\$ 30	\$ 34	\$ 36
Income taxes, net	3,109	(1,716)	(118)
Noncash investing - receivable from sale of business	-	-	325

See accompanying Notes to Consolidated Financial Statements.

NL INDUSTRIES, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2019

Note 1 - Summary of significant accounting policies:

Nature of our business - NL Industries, Inc. (NYSE: NL) is primarily a holding company. We operate in the component products industry through our majority-owned subsidiary, CompX International Inc. (NYSE American: CIX). We operate in the chemicals industry through our noncontrolling interest in Kronos Worldwide, Inc. (NYSE: KRO).

Organization - At December 31, 2019, Valhi, Inc. (NYSE: VHI) held approximately 83% of our outstanding common stock and a wholly-owned subsidiary of Contran Corporation held approximately 92% of Valhi's outstanding common stock. At December 31, 2019, a majority of Contran's outstanding voting stock is held directly by Lisa K. Simmons and Serena Simmons Connelly and various family trusts established for the benefit of Ms. Simmons and Ms. Connelly and their children and for which Ms. Simmons or Ms. Connelly, as applicable, serves as trustee. In addition, each of Ms. Simmons and Ms. Connelly serves as co-chair of the Contran board of directors. The remainder of Contran's outstanding voting stock is held by another trust (the "Family Trust"), which was established for the benefit of Ms. Simmons and Ms. Connelly and their children and for which a third-party financial institution serves as trustee. Consequently, at December 31, 2019, Ms. Simmons, Ms. Connelly and the Family Trust may be deemed to control Contran, and therefore may be deemed to indirectly control the wholly-owned subsidiary of Contran, Valhi and us.

Unless otherwise indicated, references in this report to "we," "us" or "our" refer to NL Industries, Inc. and its subsidiaries and affiliate, Kronos, taken as a whole.

Management's estimates - In preparing our financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP), we are required to make estimates and assumptions that affect the reported amounts of our assets and liabilities and disclosures of contingent assets and liabilities at each balance sheet date and the reported amounts of our revenues and expenses during each reporting period. Actual results may differ significantly from previously-estimated amounts under different assumptions or conditions.

Principles of consolidation - Our consolidated financial statements include the financial position, results of operations and cash flows of NL and our wholly-owned and majority-owned subsidiaries, including CompX. We account for the 14% of CompX stock we do not own as a noncontrolling interest. We eliminate all material intercompany accounts and balances. Changes in ownership of our wholly-owned and majority-owned subsidiaries are accounted for as equity transactions with no gain or loss recognized on the transaction unless there is a change in control.

Currency translation - The financial statements of Kronos' non-U.S. subsidiaries are translated to U.S. dollars. The functional currency of Kronos' non-U.S. subsidiaries is generally the local currency of their country. Accordingly, Kronos translates the assets and liabilities at year-end rates of exchange, while it translates its revenues and expenses at average exchange rates prevailing during the year. We accumulate the resulting translation adjustments in stockholders' equity as part of accumulated other comprehensive income (loss), net of related deferred income taxes. Kronos recognizes currency transaction gains and losses in income which is reflected as part of our equity in earnings (losses) of Kronos.

Cash and cash equivalents - We classify bank time deposits and highly-liquid investments with original maturities of three months or less as cash equivalents.

Restricted cash and cash equivalents - We classify cash equivalents that have been segregated or are otherwise limited in use as restricted. Such restrictions include cash pledged as collateral with respect to performance obligations or letters of credit required by regulatory agencies for certain environmental remediation sites and cash pledged as collateral with respect to certain workers compensation liabilities or legal settlements. To the extent the restricted amount relates to a recognized liability, we classify such restricted amount as either a current or noncurrent asset to correspond with the classification of the liability. To the extent the restricted amount

does not relate to a recognized liability, we classify restricted cash as a current asset. Restricted cash equivalents classified as a current asset or a non-current asset are presented separately on our Consolidated Balance Sheets.

Marketable securities and securities transactions - We carry marketable securities at fair value. Accounting Standard Codification (ASC) Topic 820, *Fair Value Measurements and Disclosures*, establishes a consistent framework for measuring fair value and, with certain exceptions, this framework is generally applied to all financial statement items required to be measured at fair value. The standard requires fair value measurements to be classified and disclosed in one of the following three categories:

- *Level 1* - Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- *Level 2* - Quoted prices in markets that are not active, or inputs which are observable, either directly or indirectly, for substantially the full term of the assets or liability; and
- *Level 3* - Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable.

We classify all of our marketable securities as available-for-sale. Prior to 2018, any unrealized gains or losses on the securities were recognized through other comprehensive income, net of deferred income taxes. Beginning on January 1, 2018 with the adoption of Accounting Standards Update (ASU) 2016-01, *Financial Instruments – Overall (Subtopic 825-10): Recognition of Financial Assets and Financial Liabilities*, all of our marketable equity securities will continue to be carried at fair value as noted above, but any unrealized gains or losses on the securities are now recognized in Marketable equity securities on our Consolidated Statements of Operations. We base realized gains and losses upon the specific identification of the securities sold. See Notes 5 and 11.

Accounts receivable - We provide an allowance for doubtful accounts for known and estimated potential losses arising from sales to customers based on a periodic review of these accounts. See Note 3.

Inventories and cost of sales - We state inventories at the lower of cost or net realizable value. We record a provision for obsolete and slow-moving inventories. We generally base inventory costs for all inventory categories on an average cost that approximates the first-in, first-out method. Inventories include the costs for raw materials, the cost to manufacture the raw materials into finished goods and overhead. Depending on the inventory's stage of completion, our manufacturing costs can include the costs of packing and finishing, utilities, maintenance and depreciation, shipping and handling, and salaries and benefits associated with our manufacturing process. We allocate fixed manufacturing overhead costs based on normal production capacity. Unallocated overhead costs resulting from periods with abnormally low production levels are charged to expense as incurred. As inventory is sold to third parties, we recognize the cost of sales in the same period that the sale occurs. We periodically review our inventory for estimated obsolescence or instances when inventory is no longer marketable for its intended use and we record any write-down equal to the difference between the cost of inventory and its estimated net realizable value based on assumptions about alternative uses, market conditions and other factors. See Note 4.

Investment in Kronos Worldwide, Inc. - We account for our 30% non-controlling interest in Kronos by the equity method. Distributions received from Kronos are classified for statement of cash flow purposes using the "nature of distribution" approach under ASC Topic 230. See Note 6.

Goodwill - Goodwill represents the excess of cost over fair value of individual net assets acquired in business combinations. Goodwill is not subject to periodic amortization. We evaluate goodwill for impairment, annually, or when circumstances indicate the carrying value may not be recoverable. See Note 7.

Leases - We enter into various arrangements (or leases) that convey the rights to use and control identified underlying assets for a period of time in exchange for consideration. We lease various facilities and equipment. From time to time, we may also enter into an arrangement in which the right to use and control an identified underlying asset is embedded in another type of contract. We determine if an arrangement is a lease (including

leases embedded in another type of contract) at inception. All of our leases are classified as operating leases under ASC Topic 842 *Leases*. Operating leases are not material.

Property and equipment; depreciation expense - We state property and equipment, including purchased computer software for internal use, at cost. We compute depreciation of property and equipment for financial reporting purposes principally by the straight-line method over the estimated useful lives of 15 to 40 years for buildings and 3 to 20 years for equipment and software. We use accelerated depreciation methods for income tax purposes, as permitted. Upon sale or retirement of an asset, the related cost and accumulated depreciation are removed from the accounts and any gain or loss is recognized in income currently. Expenditures for maintenance, repairs and minor renewals are expensed; expenditures for major improvements are capitalized.

We perform impairment tests when events or changes in circumstances indicate the carrying value may not be recoverable. We consider all relevant factors. We perform impairment tests by comparing the estimated future undiscounted cash flows associated with the asset to the asset's net carrying value to determine whether impairment exists.

Employee benefit plans - Accounting and funding policies for our defined benefit pension and defined contribution retirement plans are described in Note 11. We also provide certain postretirement benefits other than pensions (OPEB), consisting of health care and life insurance benefits, to certain U.S. and Canadian retired employees, which are not material. See Note 12.

Income taxes - We, Valhi and our qualifying subsidiaries are members of Contran's consolidated U.S. federal income tax group (the Contran Tax Group) and we and certain of our qualifying subsidiaries also file consolidated unitary state income tax returns with Contran in qualifying U.S. jurisdictions. As a member of the Contran Tax Group, we are jointly and severally liable for the federal income tax liability of Contran and the other companies included in the Contran Tax Group for all periods in which we are included in the Contran Tax Group. See Note 17. As a member of the Contran Tax Group, we are party to a tax sharing agreement with Valhi and Contran which provides that we compute our provision for income taxes on a separate-company basis using the tax elections made by Contran. Pursuant to our tax sharing agreement, we make payments to or receive payments from Valhi in amounts that we would have paid to or received from the U.S. Internal Revenue Service or the applicable state tax authority had we not been a member of the Contran Tax Group. We made net payments to Valhi for income taxes of \$3.1 million in 2017 and we received net refunds from Valhi for income taxes of \$1.7 million in 2018 and \$.2 million in 2019.

We recognize deferred income tax assets and liabilities for the expected future tax consequences of temporary differences between the income tax and financial reporting carrying amounts of assets and liabilities, including investments in our subsidiaries and affiliates who are not members of the Contran Tax Group and undistributed earnings of non-U.S. subsidiaries which are not deemed to be permanently reinvested. In addition, we recognize deferred income taxes with respect to the excess of the financial reporting carrying amount over the income tax basis of our direct investment in Kronos common stock because the exemption under GAAP to avoid recognition of such deferred income taxes is not available to us. Deferred income tax assets and liabilities for each tax-paying jurisdiction in which we operate are netted and presented as either a noncurrent deferred income tax asset or liability, as applicable. We periodically evaluate our deferred tax assets in the various taxing jurisdictions in which we operate and adjust any related valuation allowance based on the estimate of the amount of such deferred tax assets that we believe does not meet the more-likely-than-not recognition criteria.

We account for the tax effects of a change in tax law as a component of the income tax provision related to continuing operations in the period of enactment, including the tax effects of any deferred income taxes originally established through a financial statement component other than continuing operations (i.e. other comprehensive income). Changes in applicable income tax rates over time as a result of changes in tax law, or times in which a deferred income tax asset valuation allowance is initially recognized in one year and subsequently reversed in a later year, can give rise to "stranded" tax effects in accumulated other comprehensive income in which the net accumulated income tax (benefit) remaining in accumulated other comprehensive income does not correspond to the then-applicable income tax rate applied to the pre-tax amount which resides in accumulated other comprehensive income. As permitted by GAAP, our accounting policy is to remove any such stranded tax effect remaining in

accumulated other comprehensive income, by recognizing an offset to our provision for income taxes related to continuing operations, only at the time when there is no remaining pre-tax amount in accumulated other comprehensive income. For accumulated other comprehensive income related to currency translation, this would occur only upon the sale or complete liquidation of one of our non-U.S. subsidiaries. For defined pension benefit plans and OPEB plans, this would occur whenever one of our subsidiaries which previously sponsored a defined benefit pension or OPEB plan had terminated such a plan and had no future obligation or plan asset associated with such a plan.

We record a reserve for uncertain tax positions for tax positions where we believe it is more-likely-than-not our position will not prevail with the applicable tax authorities. The amount of the benefit associated with our uncertain tax positions that we recognize is limited to the largest amount for which we believe the likelihood of realization is greater than 50%. We accrue penalties and interest on the difference between tax positions taken on our tax returns and the amount of benefit recognized for financial reporting purposes. We classify our reserves for uncertain tax positions in a separate current or noncurrent liability, depending on the nature of the tax position. See Note 14.

Environmental remediation costs - We record liabilities related to environmental remediation obligations when estimated future expenditures are probable and reasonably estimable. We adjust these accruals as further information becomes available to us or as circumstances change. We generally do not discount estimated future expenditures to present value. We recognize any recoveries of remediation costs from other parties when we deem their receipt probable. We expense any environmental remediation related legal costs as incurred. At December 31, 2018 we had an accrued insurance recovery related to litigation settlement of \$15.0 million and at December 31, 2019 we had not recognized any such receivables for recoveries. See Note 17.

Net sales - Our sales involve single performance obligations to ship our products pursuant to customer purchase orders. In some cases, the purchase order is supported by an underlying master sales agreement, but our purchase order verification notice generally evidences the contract with our customer by specifying the key terms of product and quantity ordered, price and delivery and payment terms. Effective January 1, 2018 with the adoption of ASU No. 2014-09, *Revenue from Contracts with Customers (ASC 606)* (see Note 2), we record revenue when we satisfy our performance obligations to our customers by transferring control of our products to them, which generally occurs at point of shipment or upon delivery. Such transfer of control is also evidenced by transfer of legal title and other risks and rewards of ownership (giving the customer the ability to direct the use of, and obtain substantially all of the benefits of, the product), and our customers becoming obligated to pay us and it is probable we will receive payment. In certain arrangements we provide shipping and handling activities after the transfer of control to our customer (e.g. when control transfers prior to delivery). In such arrangements shipping and handling are considered fulfillment activities, and accordingly, such costs are accrued when the related revenue is recognized. Prior to the adoption of ASU 2014-09, we recorded sales when our products were shipped and title and other risks and rewards of ownership had passed to the customer, which was generally at the time of shipment (although in some instances shipping terms were FOB destination point, for which we did not recognize revenue until the product was received by our customers).

Revenue is recorded in an amount that reflects the net consideration we expect to receive in exchange for our products. Prices for our products are based on terms specified in published list prices and purchase orders, which generally do not include financing components, noncash consideration or consideration paid to our customers. As our standard payment terms are less than one year, we have elected the practical expedient under ASU 2014-09 and we have not assessed whether a contract has a significant financing component. We state sales net of price, early payment and distributor discounts as well as volume rebates (collectively, variable consideration). Variable consideration, to the extent present, is not material and is recognized as the amount to which we are most-likely to be entitled, using all information (historical, current and forecasted) that is reasonably available to us, and only to the extent that a significant reversal in the amount of the cumulative revenue recognized is not probable of occurring in a future period. Differences, if any, between estimates of the amount of variable consideration to which we will be entitled and the actual amount of such variable consideration have not been material in the past. We report any tax assessed by a governmental authority that we collect from our customers that is both imposed on and concurrent with our revenue-producing activities (such as sales, use, value added and excise taxes) on a net basis (meaning we do not recognize these taxes either in our revenues or in our costs and expenses).

Frequently, we receive orders for products to be delivered over dates that may extend across reporting periods. We invoice for each delivery upon shipment and recognize revenue for each distinct shipment when all sales recognition criteria for that shipment have been satisfied. As scheduled delivery dates for these orders are within a one year period, under the optional exemption provided by ASU 2014-09, we do not disclose sales allocated to future shipments of partially completed contracts.

Selling, general and administrative expenses; advertising costs; research and development costs - Selling, general and administrative expenses include costs related to marketing, sales, distribution, research and development, and administrative functions such as accounting, treasury and finance, as well as costs for salaries and benefits, travel and entertainment, promotional materials and professional fees. We expense advertising costs and research and development costs as incurred. Advertising costs were not significant in any year presented.

Corporate expenses - Corporate expenses include environmental, legal and other costs attributable to formerly-owned business units.

Note 2 – Business and geographic information:

We operate in the security products industry and marine components industry through our majority ownership of CompX. CompX manufactures and sells security products including locking mechanisms and other security products for sale to the transportation, postal, office and institutional furniture, cabinetry, tool storage, healthcare and other industries with a facility in South Carolina and a facility shared with Marine Components in Illinois. CompX also manufactures and distributes stainless steel exhaust systems, gauges, throttle controls, wake enhancement systems, trim tabs and related hardware and accessories primarily for performance and ski/wakeboard boats.

The following table disaggregates our net sales by reporting unit, which are the categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors (as required by ASC 606).

	Years ended December 31,		
	2017	2018	2019
	(In thousands)		
Net sales:			
Security Products	\$ 96,600	\$ 98,383	\$ 99,328
Marine Components	15,435	19,834	24,915
Total	<u>\$ 112,035</u>	<u>\$ 118,217</u>	<u>\$ 124,243</u>

For geographic information, the point of origin (place of manufacture) for all net sales is the U.S., the point of destination for net sales is based on the location of the customer.

	Years ended December 31,		
	2017	2018	2019
	(In thousands)		
Net sales - point of destination:			
United States	\$ 103,646	\$ 108,773	\$ 114,186
Canada	5,353	6,436	7,257
Mexico	1,486	1,438	922
Other	1,550	1,570	1,878
Total	<u>\$ 112,035</u>	<u>\$ 118,217</u>	<u>\$ 124,243</u>

All of our net property and equipment is located in the United States at December 31, 2018 and 2019.

Note 3 - Accounts and other receivables, net:

	December 31,	
	2018	2019
	(In thousands)	
Trade receivables - CompX	\$ 12,210	\$ 11,940
Accrued insurance recoveries	266	28
Other receivables	34	31
Allowance for doubtful accounts	(70)	(70)
Total	<u>\$ 12,440</u>	<u>\$ 11,929</u>

Accrued insurance recoveries are discussed in Note 17.

Note 4 - Inventories, net:

	December 31,	
	2018	2019
	(In thousands)	
Raw materials	\$ 2,661	\$ 2,941
Work in process	11,130	11,771
Finished products	3,311	3,636
Total	<u>\$ 17,102</u>	<u>\$ 18,348</u>

Note 5 - Marketable securities:

Our marketable securities consist of investments in the publicly-traded shares of our immediate parent company Valhi, Inc. Our shares of Valhi common stock are accounted for as available-for-sale securities, which are carried at fair value using quoted market prices in active markets and represent a Level 1 input within the fair value hierarchy. Prior to 2018, any unrealized gains or losses on the securities were recognized through other comprehensive income, net of deferred income taxes. Beginning on January 1, 2018 with the adoption of ASU 2016-01, our marketable equity securities continue to be carried at fair value as noted above, but any unrealized gains or losses on the securities are now recognized in Marketable equity securities on our Consolidated Statements of Operations.

	Fair value measurement level	Market value	Cost basis	Unrealized gain
			(In thousands)	
December 31, 2018				
Noncurrent assets				
Valhi common stock	1	<u>\$ 27,740</u>	<u>\$ 24,347</u>	<u>\$ 3,393</u>
December 31, 2019				
Noncurrent assets				
Valhi common stock	1	<u>\$ 26,877</u>	<u>\$ 24,347</u>	<u>\$ 2,530</u>

At December 31, 2018 and 2019, we held approximately 14.4 million shares of our immediate parent company, Valhi. See Note 1. At December 31, 2018 and 2019, the quoted market prices of Valhi common stock were \$1.93 and \$1.87 per share, respectively.

The Valhi common stock we own is subject to the restrictions on resale pursuant to certain provisions of the SEC Rule 144. In addition, as a majority-owned subsidiary of Valhi we cannot vote our shares of Valhi common stock under Delaware General Corporation Law, but we do receive dividends from Valhi on these shares, when declared and paid.

Note 6 - Investment in Kronos Worldwide, Inc.:

At December 31, 2018 and 2019, we owned approximately 35.2 million shares of Kronos common stock. The per share quoted market price of Kronos at December 31, 2018 and 2019 was \$11.52 and \$13.40 per share, respectively, or an aggregate market value of \$405.7 million and \$471.9 million, respectively. The change in the carrying value of our investment in Kronos during the past three years is summarized below:

	Years ended December 31,		
	2017	2018	2019
	(In millions)		
Balance at the beginning of the year	\$ 120.3	\$ 229.5	\$ 255.5
Equity in earnings of Kronos	107.8	62.3	26.5
Dividends received from Kronos	(21.1)	(23.9)	(25.4)
Equity in Kronos' other comprehensive income (loss):			
Currency translation	17.5	(10.1)	(.5)
Defined benefit pension plans	3.6	(2.2)	(6.7)
Other postretirement benefit plans	(.2)	(.1)	(.1)
Marketable securities	.9	-	-
Interest rate swap	.6	-	-
Other	.1	-	(.9)
Balance at the end of the year	<u>\$ 229.5</u>	<u>\$ 255.5</u>	<u>\$ 248.4</u>

Selected financial information of Kronos is summarized below:

	December 31,	
	2018	2019
	(In millions)	
Current assets	\$ 1,201.4	\$ 1,219.7
Property and equipment, net	486.4	490.6
Investment in TiO ₂ joint venture	81.3	90.2
Other noncurrent assets	129.0	165.3
Total assets	<u>\$ 1,898.1</u>	<u>\$ 1,965.8</u>
Current liabilities	\$ 233.4	\$ 270.6
Long-term debt	455.1	444.0
Accrued pension costs	262.9	307.4
Other noncurrent liabilities	106.9	127.7
Stockholders' equity	839.8	816.1
Total liabilities and stockholders' equity	<u>\$ 1,898.1</u>	<u>\$ 1,965.8</u>

	Years ended December 31,		
	2017	2018	2019
	(In millions)		
Net sales	\$ 1,729.0	\$ 1,661.9	\$ 1,731.1
Cost of sales	1,159.3	1,099.7	1,344.9
Income from operations	347.8	330.1	145.8
Income tax expense (benefit)	(48.8)	88.8	34.0
Net income	354.5	205.0	87.1

Note 7 - Goodwill:

All of our goodwill is related to our component products operations and was generated from CompX's acquisitions of certain business units. There have been no changes in the carrying amount of our goodwill during the past three years.

We assign goodwill based on the reporting unit (as that term is defined in ASC Topic 350-20-20 *Goodwill*) which corresponds to CompX's security products operations. We test for goodwill impairment at the reporting unit level. In accordance with ASC 350-20-35, we test for goodwill impairment during the third quarter of each year or when circumstances arise that indicate an impairment might be present.

In 2017, 2018 and 2019, our goodwill was tested for impairment only in the third quarter of each year in connection with our annual testing. No impairment was indicated as part of such annual review of goodwill. As permitted by GAAP, during 2017, 2018 and 2019 we used the qualitative assessment of ASC 350-20-35 for our annual impairment test and determined it was not necessary to perform the quantitative goodwill impairment test. Such discounted cash flows are a Level 3 input as defined by ASC 820-10-35. Prior to 2017, all of the goodwill related to CompX's marine components operations (which aggregated \$10.1 million) was impaired, and all of the goodwill related to our wholly-owned subsidiary EWI Re, Inc., (EWI) an insurance brokerage and risk management services company (which aggregated \$6.4 million) was impaired. Our gross goodwill at December 31, 2019 was \$43.7 million.

Note 8 - Other assets:

	December 31,	
	2018	2019
	(In thousands)	
Pension asset	\$ 1,898	\$ 4,294
Other	1,210	1,566
Total	<u>\$ 3,108</u>	<u>\$ 5,860</u>

Note 9 - Accrued and other current liabilities:

	December 31,	
	2018	2019
	(In thousands)	
Employee benefits	\$ 9,001	\$ 8,917
Other	1,853	1,684
Total	<u>\$ 10,854</u>	<u>\$ 10,601</u>

Note 10 - Long-term debt:

In November 2016, we entered into a financing transaction with Valhi. Previously, and in contemplation of the financing transaction described herein, we formed NLKW Holding, LLC and capitalized it with 35.2 million shares of the common stock of Kronos held by us.

The financing transaction consisted of two steps. Under the first step, NLKW entered into a \$50 million revolving credit facility (the “Valhi Credit Facility”) pursuant to which NLKW can borrow up to \$50 million from Valhi (with such commitment amount subject to increase from time to time at Valhi’s sole discretion). Proceeds from any borrowings by NLKW under the Valhi Credit Facility would be available for one or more loans from NLKW to us in accordance with the terms of the second step of the financing transaction: a Back-to-Back Credit Facility, as described below. Outstanding borrowings under the Valhi Credit Facility bear interest at the prime rate plus 1.875% per annum, payable quarterly, with all amounts due on December 31, 2023. The maximum principal amount which may be outstanding from time-to-time under the Valhi Credit Facility is limited to 50% of the amount determined by multiplying the number of shares of Kronos common stock pledged by the most recent closing price of such security on the New York Stock Exchange. Borrowings under the Valhi Credit Facility are collateralized by the assets of NLKW (consisting primarily of the shares of Kronos common stock pledged) and 100% of the membership interest in NLKW held by us. The Valhi Credit Facility contains a number of covenants and restrictions which, among other things, restrict NLKW’s ability to incur additional debt, incur liens, and merge or consolidate with, or sell or transfer substantially all of NLKW’s assets to, another entity, and require NLKW to maintain a minimum specified level of consolidated net worth. Upon an event of default, Valhi will be entitled to terminate its commitment to make further loans to NLKW, to declare the outstanding loans (with interest) immediately due and payable, and, in the case of certain insolvency events with respect to NLKW or us, to exercise its rights with respect to the collateral. Such collateral rights include the right to purchase all of the shares of Kronos common stock pledged at a purchase price equal to the aggregate market value of such stock (with such market value determined by an independent third-party valuation provider), less amounts owing to Valhi under the Valhi Credit Facility, with up to 50% of such purchase price being payable by Valhi in the form of an unsecured promissory note bearing interest at the prime rate plus 2.75% per annum, payable quarterly, with all amounts due no later than five years from the date of purchase, and with the remainder of such purchase price payable in cash at the date of purchase.

Contemporaneously with the entering into the Valhi Credit Facility, NLKW entered into a \$50 million revolving credit facility (the “Back-to-Back Credit Facility”) with us, pursuant to which we can borrow up to \$50 million from NLKW (with such commitment amount subject to increase from time to time in NLKW’s sole discretion). Proceeds from any borrowings under the Back-to-Back Credit Facility would be available for our general corporate purposes, including providing resources to assist us in the resolution of certain claims and contingent liabilities which may be asserted against us. Outstanding borrowings under the Back-to-Back Credit Facility bear interest at the same rate and are payable on the same maturity date as are borrowings by NLKW under the Valhi Credit Facility. Borrowings under the Back-to-Back Credit Facility are on an unsecured basis; however, as a condition thereto, we pledged to Valhi as collateral for the Valhi Credit Facility our 100% membership interest in NLKW. Any outstanding borrowings and interest on such borrowings under the Back-to-Back Credit Facility are eliminated in the preparation of the consolidated financial statements.

We had outstanding borrowings under the Valhi Credit Facility of \$.5 million as of December 31, 2018 and 2019. The interest rate as of December 31, 2019 and the average interest rate for the year then ended were 6.63% and 7.16%, respectively. See Note 16. We are in compliance with all of the covenants contained in the Valhi Credit Facility at December 31, 2019.

Note 11 - Employee benefit plans:

Defined contribution plans - We maintain various defined contribution pension plans. Company contributions are based on matching or other formulas. Defined contribution plan expense approximated \$2.5 million in 2017, \$3.1 million in 2018 and \$3.2 million in 2019.

Defined benefit pension plans - We maintain a defined benefit pension plan in the U.S. We also maintain a plan in the United Kingdom (U.K.) related to a former disposed business unit in the U.K. The benefits under our defined benefit plans are based upon years of service and employee compensation. The plans are closed to new participants and no additional benefits accrue to existing plan participants. Our funding policy is to contribute annually the minimum amount required under ERISA (or equivalent non-U.S.) regulations plus additional amounts as we deem appropriate.

We expect to contribute approximately \$2.0 million to our defined benefit pension plans during 2020. Benefit payments to all plan participants out of plan assets are expected to be the equivalent of:

Years ending December 31,	Amount
	(In thousands)
2020	\$ 3,551
2021	3,576
2022	3,583
2023	3,545
2024	3,465
Next 5 years	16,150

The funded status of our defined benefit pension plans is presented in the table below.

	December 31,	
	2018	2019
	(In thousands)	
Change in projected benefit obligations (PBO):		
Benefit obligations at beginning of the year	\$ 53,978	\$ 49,249
Interest cost	1,808	1,884
Participant contributions	5	1
Actuarial losses (gains)	(2,511)	2,582
Change in currency exchange rates	(545)	260
Benefits paid	(3,486)	(3,626)
Benefit obligations at end of the year	<u>49,249</u>	<u>50,350</u>
Change in plan assets:		
Fair value of plan assets at beginning of the year	44,222	40,626
Actual return on plan assets	(2,237)	5,752
Employer contributions	2,792	3,173
Participant contributions	5	1
Change in currency exchange rates	(670)	387
Benefits paid	(3,486)	(3,626)
Fair value of plan assets at end of year	<u>40,626</u>	<u>46,313</u>
Funded status	<u>\$ (8,623)</u>	<u>\$ (4,037)</u>
Amounts recognized in the balance sheet:		
Noncurrent pension asset	\$ 1,898	\$ 4,294
Accrued pension costs:		
Current	(132)	(101)
Noncurrent	(10,389)	(8,230)
Total	<u>(8,623)</u>	<u>(4,037)</u>
Accumulated other comprehensive loss - actuarial losses, net	31,601	28,687
Total	<u>\$ 22,978</u>	<u>\$ 24,650</u>
Accumulated benefit obligations (ABO)	<u>\$ 49,249</u>	<u>\$ 50,350</u>

The amounts shown in the table above for actuarial losses (gains) at December 31, 2018 and 2019 have not been recognized as components of our periodic defined benefit pension cost as of those dates. These amounts will be recognized as components of our periodic defined benefit cost in future years. These amounts, net of deferred income taxes, are recognized in our accumulated other comprehensive income (loss) at December 31, 2018 and 2019. We expect that \$1.5 million of the unrecognized actuarial losses will be recognized as a component of our periodic defined benefit pension cost in 2020.

The table below details the changes in other comprehensive income during 2017, 2018 and 2019.

	Years ended December 31,		
	2017	2018	2019
	(In thousands)		
Changes in plan assets and benefit obligations recognized in other comprehensive income (loss):			
Net actuarial gain (loss) arising during the year	\$ 498	\$ (2,709)	\$ 1,330
Amortization of unrecognized net actuarial loss	1,704	1,937	1,584
Total	<u>\$ 2,202</u>	<u>\$ (772)</u>	<u>\$ 2,914</u>

The components of our net periodic defined benefit pension cost are presented in the table below. The amount shown below for the amortization of unrecognized actuarial losses in 2017, 2018 and 2019, net of deferred income taxes, was recognized as a component of our accumulated other comprehensive income (loss) at December 31, 2016, 2017 and 2018, respectively.

	Years ended December 31,		
	2017	2018	2019
	(In thousands)		
Net periodic pension cost:			
Interest cost on PBO	\$ 2,072	\$ 1,808	\$ 1,884
Expected return on plan assets	(2,770)	(3,043)	(1,899)
Recognized actuarial losses	1,704	1,937	1,584
Settlement cost	87	-	-
Total	<u>\$ 1,093</u>	<u>\$ 702</u>	<u>\$ 1,569</u>

Certain information concerning our defined benefit pension plans (including information concerning certain plans for which ABO exceeds the fair value of plan assets as of the indicated date) is presented in the table below.

	December 31,	
	2018	2019
	(In thousands)	
PBO at end of the year		
U.S. plan	\$ 40,643	\$ 42,198
U.K. plan	8,606	8,152
Total	<u>\$ 49,249</u>	<u>\$ 50,350</u>
Fair value of plan assets at end of the year		
U.S. plan	\$ 30,122	\$ 33,867
U.K. plan	10,504	12,446
Total	<u>\$ 40,626</u>	<u>\$ 46,313</u>
Plans for which the ABO exceeds plan assets (only our U.S. plan):		
PBO	\$ 40,643	\$ 42,198
ABO	40,643	42,198
Fair value of plan assets	30,122	33,867

The weighted-average discount rate assumptions used in determining the actuarial present value of our benefit obligations as of December 31, 2018 and 2019 are 3.9% and 2.9%, respectively. Such weighted-average rates were determined using the projected benefit obligations at each date. Since our plans are closed to new participants and no new additional benefits accrue to existing plan participants, assumptions regarding future compensation levels are not applicable. Consequently, the accumulated benefit obligations for all of our defined benefit pension plans were equal to the projected benefit obligations at December 31, 2018 and 2019.

The weighted-average rate assumptions used in determining the net periodic pension cost for 2017, 2018 and 2019 are presented in the table below. Such weighted-average discount rates were determined using the projected benefit obligations as of the beginning of each year and the weighted-average long-term return on plan assets was determined using the fair value of plan assets as of the beginning of each year.

Rate	Years ended December 31,		
	2017	2018	2019
Discount rate	3.7%	3.4%	3.9%
Long-term rate of return on plan assets	6.9%	7.2%	4.7%

Variances from actuarially assumed rates will result in increases or decreases in accumulated pension obligations, pension expense and funding requirements in future periods.

At December 31, 2017, substantially all of the assets attributable to our U.S. plan were invested in the Combined Master Retirement Trust (CMRT), a collective investment trust sponsored by Contran to permit the collective investment by certain master trusts that fund certain employee benefit plans sponsored by Contran and certain of its affiliates, including us. For 2017 and 2018, the long-term rate of return assumption for our U.S. plan assets was 7.5%, based on the long-term asset mix of the assets of the CMRT and the expected long-term rates of return for such asset components as well as advice from Contran's actuaries. During 2018, Contran and the other employer-sponsors (including us) implemented a restructuring of the CMRT, in which a substantial part of each plan's units in the CMRT were redeemed in exchange for a pro-rata portion of a substantial part of the CMRT's investments. Following such restructuring, the plans held directly in the aggregate the investments previously held directly by the CMRT which had been exchanged for CMRT units as part of the restructuring. Certain investments held directly by the CMRT were not part of such restructuring and remained investments of the CMRT at December 31, 2018. During 2019, the remaining investments of the CMRT allocable to our U.S. plan were transferred and are held as direct investments of our U.S. plan at December 31, 2019. Such restructuring was implemented in part so each plan could more easily align the composition of its plan asset portfolio with the plan's benefit obligations.

In determining the expected long-term rate of return on our U.S. and non-U.S. plan asset assumptions, we consider the long-term asset mix (e.g. equity vs. fixed income) for the assets for each of our plans and the expected long-term rates of return for such asset components. In addition, we receive third-party advice about appropriate long-term rates of return. In the U.S. we currently have a plan asset target allocation of 36% to equity securities, 49% to fixed income securities, and the remainder is allocated to multi-asset strategies. The expected long-term rate of return for such investments is approximately 9%, 4% and 3%, respectively (before plan administrative expenses). The majority of U.S. plan assets are Level 1 inputs because they are traded in active markets and approximately 30% of our U.S. plan assets are invested in funds that are valued at net asset value (NAV) and, in accordance with ASC 820-10, not subject to classification in the fair value hierarchy. The non-U.S. plan assets consist of marketable securities which are Level 1 inputs because they trade in active markets.

We regularly review our actual asset allocation for each plan, and will periodically rebalance the investments in each plan to more accurately reflect the targeted allocation and/or maximize the overall long-term return when considered appropriate.

The composition of our pension plan assets by fair value level at December 31, 2018 and 2019 is shown in the table below.

	Fair Value Measurements				Assets measured at NAV
	Total	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
(In thousands)					
December 31, 2018:					
U.S.					
Equities	\$ 11,353	\$ 3,423	\$ -	\$ -	\$ 7,930
Fixed income	13,856	13,856	-	-	-
Cash and other	3,250	2,347	-	-	903
CMRT	1,663	-	-	1,663	-
Other	10,504	10,504	-	-	-
Total	<u>\$ 40,626</u>	<u>\$ 30,130</u>	<u>\$ -</u>	<u>\$ 1,663</u>	<u>\$ 8,833</u>

	Fair Value Measurements				Assets measured at NAV
	Total	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
(In thousands)					
December 31, 2019:					
U.S.					
Equities	\$ 13,439	\$ 3,789	\$ -	\$ 439	\$ 9,211
Fixed income	16,290	16,290	-	-	-
Cash and other	4,138	3,197	-	-	941
Other	12,446	12,446	-	-	-
Total	<u>\$ 46,313</u>	<u>\$ 35,722</u>	<u>\$ -</u>	<u>\$ 439</u>	<u>\$ 10,152</u>

Note 12 - Other noncurrent liabilities:

	December 31,	
	2018	2019
(In thousands)		
Reserve for uncertain tax positions	\$ 7,312	\$ 4,053
OPEB	1,519	1,129
Insurance claims and expenses	621	665
Other	463	413
Total	<u>\$ 9,915</u>	<u>\$ 6,260</u>

Our reserve for uncertain tax positions is discussed in Note 14.

Note 13 - Other operating income (expense):

We have agreements with certain insurance carriers pursuant to which the carriers reimburse us for a portion of our past lead pigment and asbestos litigation defense costs. Insurance recoveries include amounts we received from these insurance carriers.

The agreements with certain of our insurance carriers also include reimbursement for a portion of our future litigation defense costs. We are not able to determine how much we will ultimately recover from these carriers for defense costs incurred by us because of certain issues that arise regarding which defense costs qualify for reimbursement. Accordingly, these insurance recoveries are recognized when the receipt is probable and the amount is determinable. Insurance recoveries in 2019 primarily related to a single settlement we reached with one of our insurance carriers in which they agreed to reimburse us for a portion of our past and future litigation defense costs. See Note 17.

Other income, net in 2019 includes a gain of \$4.4 million related to a sale of excess property in the third quarter. In the fourth quarter we sold our insurance and risk management business for proceeds of \$3.25 million and recognized a gain of \$3.0 million on the sale.

Note 14 - Income taxes:

The provision for income taxes and the difference between such provision for income taxes and the amount that would be expected using the U.S. federal statutory income tax rate are presented below.

	Years ended December 31,		
	2017	2018	2019
	(In millions)		
Expected tax expense (benefit), at U.S. federal statutory income tax rate of 35% in 2017 and 21% in 2018 and 2019	\$ 39.3	\$ (11.4)	\$ 6.0
Rate differences on equity in earnings of Kronos	(7.4)	(5.0)	(5.3)
Change in federal tax rate, net	(37.5)	.8	-
U.S. state income taxes and other, net	-	.2	(.1)
Income tax expense (benefit)	<u>\$ (5.6)</u>	<u>\$ (15.4)</u>	<u>\$.6</u>
Components of income tax expense (benefit):			
Currently payable (receivable):	\$ (.1)	\$ (.2)	\$.2
Deferred income tax expense (benefit)	(5.5)	(15.2)	.4
Income tax expense (benefit)	<u>\$ (5.6)</u>	<u>\$ (15.4)</u>	<u>\$.6</u>
Comprehensive provision for income taxes (benefit) allocable to:			
Income (loss) from continuing operations	\$ (5.6)	\$ (15.4)	\$.6
Additional paid-in capital	-	-	(.2)
Other comprehensive income (loss):			
Currency translation	6.1	(2.1)	(.1)
Pension plans	1.9	(.6)	(.8)
OPEB plans	(.1)	-	-
Marketable securities	14.3	-	-
Interest rate swap	.2	-	-
Total	<u>\$ 16.8</u>	<u>\$ (18.1)</u>	<u>\$ (.5)</u>

The components of the net deferred tax liability at December 31, 2018 and 2019 are summarized in the following table.

	December 31,			
	2018		2019	
	Assets	Liabilities	Assets	Liabilities
	(In millions)			
Tax effect of temporary differences related to:				
Inventories	\$.4	\$ -	\$.4	\$ -
Marketable securities	-	(5.6)	-	(5.4)
Property and equipment	-	(2.6)	-	(2.8)
Accrued OPEB costs	.4	-	.3	-
Accrued pension costs	1.7	-	.7	-
Accrued employee benefits	1.1	-	1.2	-
Accrued environmental liabilities	33.6	-	31.7	-
Goodwill	-	(1.7)	-	(1.7)
Other accrued liabilities and deductible differences	.3	-	.2	-
Tax loss and credit carryforwards	1.2	-	-	-
Other taxable differences	-	(2.4)	-	(2.3)
Investment in Kronos Worldwide, Inc.	-	(57.8)	-	(56.3)
Adjusted gross deferred tax assets (liabilities)	38.7	(70.1)	34.5	(68.5)
Netting of items by tax jurisdiction	(38.7)	38.7	(34.5)	34.5
Net noncurrent deferred tax asset (liability)	<u>\$ -</u>	<u>\$ (31.4)</u>	<u>\$ -</u>	<u>\$ (34.0)</u>

In accordance with GAAP, we recognize deferred income taxes on our undistributed equity in earnings (losses) of Kronos. Because we and Kronos are part of the same U.S. federal income tax group, any dividends we receive from Kronos are nontaxable to us. Accordingly, we do not recognize and we are not required to pay income taxes on dividends from Kronos. We received aggregate dividends from Kronos of \$21.1 million in 2017, \$23.9 million in 2018 and \$25.4 million in 2019. See Note 6. The amounts shown in the table above of our income tax rate reconciliation for rate differences on equity in earnings (losses) of Kronos represent the benefit associated with the nontaxable dividends we receive from Kronos compared to the amount of deferred income taxes we recognize on our undistributed equity in earnings (losses) of Kronos.

At December 31, 2019, we had NOL carryforwards for federal income tax purposes of approximately \$15.5 million all of which have an indefinite carryforward period subject to an 80% annual usage limitation. Our deferred tax asset for such NOL carryforward is net of a portion of our uncertain tax positions as discussed below.

We believe that we have adequate accruals for additional taxes and related interest expense which could ultimately result from tax examinations. We believe the ultimate disposition of tax examinations should not have a material adverse effect on our consolidated financial position, results of operations or liquidity. If our uncertain tax position at December 31, 2019 was recognized, a benefit of \$7.3 million would affect our effective income tax rate. We currently estimate that our unrecognized tax benefits will not change materially during the next twelve months.

The following table shows the changes in the amount of our uncertain tax positions (exclusive of the effect of interest and penalties) during 2017, 2018 and 2019:

	December 31,		
	2017	2018	2019
	(In millions)		
Unrecognized liabilities:			
Balance at the beginning of the period	\$ 12.2	\$ 7.3	\$ 7.3
Change in federal tax rate	(4.9)	-	-
Balance at the end of the period	<u>\$ 7.3</u>	<u>\$ 7.3</u>	<u>\$ 7.3</u>

Prior to 2007, we made certain pro-rata distributions to our stockholders in the form of Kronos common stock and we recognized a taxable gain related to such distributions. Our uncertain tax positions are attributable to such prior period distribution of Kronos common stock. As discussed in Note 1, we are part of the Contran Tax Group and we have not paid this liability because Contran has not paid the liability to the applicable tax authority. This liability would be payable by Contran to the applicable tax authority if the shares of Kronos common stock were to be sold or otherwise disposed outside of the Contran Tax Group. At December 31, 2019, \$3.3 million of our uncertain tax position is classified as a component of our noncurrent deferred tax liability.

We and Contran file income tax returns in U.S. federal and various state and local jurisdictions. Our U.S. income tax returns prior to 2016 are generally considered closed to examination by applicable tax authorities.

On December 22, 2017, H.R.1, formally known as the “Tax Cuts and Jobs Act” (2017 Tax Act) was enacted into law. This new tax legislation, among other changes, reduced the Federal corporate income tax rate from 35% to 21% effective January 1, 2018, eliminated the domestic production activities deduction and allows for the expensing of certain capital expenditures. Following the enactment of the 2017 Tax Act, the Securities and Exchange Commission issued Staff Accounting Bulletin (SAB) 118 to provide guidance on the accounting and reporting impacts of the 2017 Tax Act. SAB 118 states that companies should account for changes related to the 2017 Tax Act in the period of enactment if all information is available and the accounting can be completed. In situations where companies do not have enough information to complete the accounting in the period of enactment, a company must either 1) record an estimated provisional amount if the impact of the change can be reasonably estimated; or 2) continue to apply the accounting guidance that was in effect immediately prior to the 2017 Tax Act if the impact of the change cannot be reasonably estimated. If estimated provisional amounts are recorded, SAB 118 provided a measurement period of no longer than one year during which companies adjusted those amounts as additional information became available.

Under GAAP, we were required to revalue our net deferred tax liability associated with our net taxable temporary differences in the period in which the new tax legislation was enacted based on deferred tax balances as of the enactment date, to reflect the effect of such reduction in the corporate income tax rate. Other than with respect to temporary differences related to our marketable securities, and certain year-end actuarial valuations associated with our defined benefit pension and OPEB plans, our temporary differences as of December 31, 2017 were not materially different from our temporary differences as of the enactment date. Accordingly, revaluation of our temporary differences is based on our net deferred tax liabilities as of December 31, 2017 (except for our temporary differences related to our marketable securities, and certain year-end actuarial valuations associated with our defined benefit pension and OPEB plans, for which such revaluation is based on the deferred income tax asset/liability as of the enactment date). Such revaluation resulted in a non-cash deferred income tax benefit of \$37.5 million recognized in continuing operations in the fourth quarter of 2017, reducing our net deferred tax liability. During the third quarter of 2018, in conjunction with finalizing our federal income tax return, we were able to obtain, prepare and analyze the necessary information to complete the accounting related to the revaluation of our net deferred tax liability associated with our U.S. net taxable temporary differences as of December 31, 2017, which resulted in the recognition of an immaterial adjustment to the provisional amount recognized at December 31, 2017. Accordingly, we completed our analysis related to such revaluation as of September 30, 2018.

Income tax matters related to Kronos

Kronos has substantial net operating loss (NOL) carryforwards in Germany (the equivalent of \$501 million for German corporate purposes at December 31, 2019) and in Belgium (the equivalent of \$8 million for Belgian corporate tax purposes at December 31, 2019), all of which have an indefinite carryforward period. As a result, Kronos has and has had net deferred income tax assets with respect to these two jurisdictions, primarily related to these NOL carryforwards. The German corporate tax is similar to the U.S. federal income tax, and the German trade tax is similar to the U.S. state income tax (Kronos' German trade tax NOLs were fully utilized as of December 31, 2018). Prior to 2017, Kronos concluded that it was required to recognize a non-cash deferred income tax asset valuation allowance under the more-likely-than-not recognition criteria with respect to its German and Belgian net deferred income tax assets. At December 31, 2016 such valuation allowance aggregated \$173 million (\$153 million with respect to Germany and \$20 million with respect to Belgium). During the first six months of 2017, Kronos recognized an aggregate non-cash deferred income tax benefit of \$12.7 million as a result of a net decrease in such deferred income tax asset valuation allowance, due to utilizing a portion of both the German and Belgian NOL during the period. At June 30, 2017, Kronos concluded it had sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to its German and Belgian operations. In accordance with the ASC 740-270 guidance regarding accounting for income taxes at interim dates, the amount of the valuation allowance reversed at June 30, 2017 (\$149.9 million, of which \$141.9 million related to Germany and \$8.0 million related to Belgium) was associated with its change in judgment at that date regarding the realizability of the related deferred income tax asset as it relates to future years (i.e. 2018 and after). A change in judgment regarding the realizability of deferred tax assets as it relates to the current year is considered in determining the estimated annual effective tax rate for the year and is recognized throughout the year, including interim periods subsequent to the date of the change in judgment. Accordingly, Kronos' income tax benefit in calendar year 2017 included an aggregate non-cash deferred income tax benefit of \$186.7 million associated with the reversal of the German and Belgian valuation allowance, comprised of \$12.7 million recognized in the first half of 2017 (noted above) associated with the utilization of a portion of both the German and Belgian NOLs during such period, \$149.9 million related to the portion of the valuation allowance reversed as of June 30, 2017 and \$24.1 million recognized in the second half of 2017 associated with the utilization of a portion of both the German and Belgian NOLs during such period. Kronos' deferred income tax asset valuation allowance increased \$13.7 million in 2017 as a result of changes in currency exchange rates, which increase was recognized as part of other comprehensive income (loss).

Under GAAP, Kronos was required to revalue its net deferred tax asset associated with its U.S. net deductible temporary differences in the period in which the new tax legislation is enacted based on deferred tax balances as of the enactment date, to reflect the effect of such reduction in the corporate income tax rate. Kronos' net deductible temporary differences as of December 31, 2017 were not materially different from its net deductible temporary differences as of the enactment date, accordingly revaluation of its net deductible temporary differences was based on its net deferred tax asset as of December 31, 2017. Such revaluation was recognized in continuing operations and was not material to Kronos.

Prior to the enactment of the 2017 Tax Act, the undistributed earnings of Kronos' European subsidiaries were deemed to be permanently reinvested (Kronos had not made a similar determination with respect to the undistributed earnings of its Canadian subsidiary). Pursuant to the Transition Tax provisions imposing a one-time repatriation tax on post-1986 undistributed earnings, Kronos recognized a provisional current income tax expense of \$76.2 million in the fourth quarter of 2017. The amounts recorded as of December 31, 2017 as a result of the 2017 Tax Act represented estimates based on information available at such date. Kronos elected to pay such tax over an eight year period beginning in 2018. During the third quarter of 2018, in conjunction with finalizing its federal income tax return and based on additional information that became available (including proposed regulations issued by the IRS in August 2018 with respect to the Transition Tax), Kronos recognized a provisional income tax benefit of \$1.7 million which amount is recorded as a measurement-period adjustment, reducing the provisional income tax expense of \$76.2 million recognized in the fourth quarter of 2017. Pursuant to IRS guidance issued in 2019, Kronos' Transitional Tax installment for the 2019 tax year is due in April of 2020. Prior to the issuance of the new guidance, Kronos anticipated paying such installment in 2019. Consequently, at December 31, 2019, taking into account Kronos' prior Transition Tax installments payments, the balance of its unpaid Transition Tax has not changed from the balance at December 31, 2018 and aggregates \$62.6 million, which will be paid in annual installments over the remainder of the eight year period. Of such \$62.6 million, \$56.6 million is recorded as a

noncurrent payable to affiliate (income taxes payable to Valhi) classified as a noncurrent liability in its Consolidated Balance Sheet at December 31, 2019, and \$6.0 million is included with its current payable to affiliate (income taxes payable to Valhi) classified as a current liability (a portion of its noncurrent income tax payable to affiliate was reclassified to its current payable to affiliate for the portion of its 2019 Transition Tax installment due within the next twelve months). Kronos completed its analysis of the Transition Tax provisions within the prescribed measurement period ending December 22, 2018 pursuant to the guidance under SAB 118.

As a result of the implementation of a territorial tax system under the 2017 Tax Act, effective January 1, 2018, and the Transition Tax which in effect taxes the post-1986 undistributed earnings of its non-U.S. subsidiaries accumulated up through December 31, 2017, Kronos determined effective December 31, 2017 that all of the post-1986 undistributed earnings of its European subsidiaries are not permanently reinvested. Accordingly, in the fourth quarter of 2017 Kronos recognized an aggregate provisional non-cash deferred income tax expense of \$4.5 million based on its reasonable estimates of the U.S. state and non-U.S. income tax and withholding tax liability attributable to all of such previously-considered permanently reinvested undistributed earnings through December 31, 2017. The amounts recorded as of December 31, 2017 as a result of the 2017 Tax Act represented estimates based on information currently available. Kronos did not make any measurement-period adjustments to the provisional amounts recorded at December 31, 2017 for this item during 2018 because no new information became available during the period that required an adjustment. However, Kronos recorded a non-cash deferred income tax expense of \$2.4 million for the U.S. state and non-U.S. income tax and withholding tax liability attributable to the 2018 undistributed earnings of its non-U.S. subsidiaries in 2018, including withholding taxes related to the undistributed earnings of its Canadian subsidiary. Kronos completed its analysis as it relates to the implementation of a territorial tax system under the 2017 Tax Act within the prescribed measurement period ending December 22, 2018 pursuant to the guidance under SAB 118.

Kronos records global intangible low-tax income (GILTI) tax as a current-period expense when incurred under the period cost method. Kronos has evaluated the tax impact of GILTI and the base erosion anti abuse tax (BEAT) provisions and related U.S. tax credit provisions applicable to tax years beginning in 2018 based on the relevant statutes. Kronos recognized a current cash income tax expense of \$3.7 million and \$2.4 million for GILTI in 2018 and 2019, respectively. While its future global operations depend on a number of different factors, Kronos does expect to have future U.S. inclusion in taxable income related to GILTI. Similarly, Kronos has evaluated the tax impact of BEAT and determined that the tax law imposed under BEAT has no material impact to Kronos as it has historically not entered into international payments between related parties that are unrelated to cost of goods sold. Kronos' determinations under the GILTI, BEAT and related U.S. tax credit provisions are based on the relevant statutes and guidance provided under the regulations.

Certain U.S. deferred tax attributes of one of Kronos' non-U.S. subsidiaries, which subsidiary is treated as a dual resident for U.S. income tax purposes, were subject to various limitations. As a result, Kronos had previously concluded that a deferred income tax asset valuation allowance was required to be recognized with respect to such subsidiary's U.S. net deferred income tax asset because such assets did not meet the more-likely-than-not recognition criteria primarily due to (i) the various limitations regarding use of such attributes due to the dual residency; (ii) the dual resident subsidiary had a history of losses and absent distributions from its non-U.S. subsidiaries, which were previously not determinable, such subsidiary was expected to continue to generate losses; and (iii) a limited NOL carryforward period for U.S. tax purposes. Because Kronos had concluded the likelihood of realization of such subsidiary's net deferred income tax asset was remote, Kronos had not previously disclosed such valuation allowance or the associated amount of the subsidiary's net deferred income tax assets (exclusive of such valuation allowance). Primarily due to changes enacted under the 2017 Tax Act, Kronos concluded it had sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to such subsidiary's net deferred income tax asset, which evidence included, among other things, (i) the inclusion under Transition Tax provisions of significant earnings for U.S. income tax purposes which significantly and positively impacts the ability of such deferred tax attributes to be utilized by Kronos; (ii) the indefinite carryforward period for U.S. net operating losses incurred after December 31, 2017; (iii) an expectation of continued future profitability for its U.S. operations; and (iv) a positive taxable income basket for U.S. tax purposes in excess of the U.S. deferred tax asset related to the U.S. attributes of such subsidiary. Accordingly, in the fourth quarter of 2017 Kronos recognized an \$18.7 million non-cash deferred income tax benefit as a result of the reversal of such valuation allowance.

In the fourth quarter of 2019, Kronos recognized a net income tax benefit of \$3.0 million primarily related to the favorable settlement of a prior year tax matter in Germany, with \$1.5 million recognized as a current cash tax benefit and \$1.5 million recognized as a non-cash deferred income tax benefit related to an increase to its German net operating loss carryforward. In addition, Kronos recognized a non-cash deferred income tax expense of \$5.5 million primarily related to the revaluation of its net deferred income tax asset in Germany resulting from a decrease in the German trade tax rate.

At December 31, 2019, none of our or Kronos' U.S. and non-U.S. tax returns were under examination. As a result of prior audits in certain jurisdictions which are now settled, in 2008 Kronos filed Advance Pricing Agreement Requests with the tax authorities in the U.S., Canada and Germany. These requests have been under review with the respective tax authorities since 2008 and prior to 2016, it was uncertain whether an agreement would be reached between the tax authorities and whether Kronos would agree to execute and finalize such agreements.

- During the third quarter of 2017, Kronos' Canadian subsidiary executed and finalized an Advance Pricing Agreement with the Competent Authority for Canada (the "Canada-Germany APA") effective for tax years 2005 - 2017. Pursuant to the terms of the Canada-Germany APA, the Canadian and German tax authorities agreed to certain prior year changes to taxable income of its Canadian and German subsidiaries. As a result of such agreed-upon changes, Kronos reversed a significant portion of its reserve for uncertain tax positions and recognized a non-cash income tax benefit of \$8.6 million related to such reversal (\$8.1 million recognized in the third quarter of 2017). In addition, Kronos recognized a \$2.6 million non-cash income tax benefit related to an increase in its German NOLs and a \$6 million German cash tax refund related to the Canada-Germany APA in the third quarter of 2017.
- During the first quarter of 2018, Kronos' German subsidiary executed and finalized the related Advance Pricing Agreement with the Competent Authority for Germany (the "Germany-Canada APA") effective for tax years 2005 - 2017. In the first quarter of 2018, Kronos recognized a net \$1.4 million non-cash income tax benefit related to an APA tax settlement payment between its German and Canadian subsidiaries.

Note 15 - Stockholders' equity:

Long-term incentive compensation plan – We have a long-term incentive plan that provides for the award of stock to our board of directors, and up to a maximum of 200,000 shares can be awarded. We awarded 9,000 shares under this plan in 2017, 12,600 shares in 2018 and 28,250 shares in 2019. At December 31, 2019, 113,150 shares were available for future grants under this plan.

Long-term incentive compensation plan of subsidiaries and affiliates - CompX and Kronos each have a share based incentive compensation plan pursuant to which an aggregate of up to 200,000 shares of their common stock can be awarded to members of their board of directors. At December 31, 2019, Kronos had 140,900 shares available for award and CompX had 149,050 shares available for award.

Dividends – We did not pay dividends during 2017, 2018 or 2019. The declaration and payment of future dividends, and the amount thereof, is discretionary and is dependent upon our financial condition, cash requirements, contractual obligations and restrictions and other factors deemed relevant by our Board of Directors.

Accumulated other comprehensive loss - Changes in accumulated other comprehensive loss attributable to NL stockholders, including amounts resulting from our investment in Kronos Worldwide (see Note 6), are presented in the table below.

	Years ended December 31,		
	2017	2018	2019
	(In thousands)		
Accumulated other comprehensive loss, net of tax:			
Currency translation:			
Balance at beginning of year	\$ (175,859)	\$ (164,467)	\$ (172,434)
Other comprehensive income (loss)	11,392	(7,967)	(409)
Balance at end of year	<u>\$ (164,467)</u>	<u>\$ (172,434)</u>	<u>\$ (172,843)</u>
Defined benefit pension plans:			
Balance at beginning of year	\$ (76,710)	\$ (72,951)	\$ (75,286)
Other comprehensive income (loss):			
Amortization of prior service cost and net losses included in net periodic pension cost	2,956	(2,335)	3,539
Net actuarial gain (loss) arising during the year	803	-	(6,510)
Balance at end of year	<u>\$ (72,951)</u>	<u>\$ (75,286)</u>	<u>\$ (78,257)</u>
Marketable securities:			
Balance at beginning of year	\$ 20,473	\$ 46,069	\$ -
Change in accounting principle	-	(46,069)	-
Balance at beginning of year, as adjusted	20,473	-	-
Other comprehensive income:			
Unrealized gain arising during the year	25,596	-	-
Balance at end of year	<u>\$ 46,069</u>	<u>\$ -</u>	<u>\$ -</u>
Interest rate swap:			
Balance at beginning of year	\$ (390)	\$ -	\$ -
Other comprehensive income (loss):			
Unrealized losses arising during the year	(296)	-	-
Reclassification adjustments for amounts included in equity in earnings of Kronos	686	-	-
Balance at end of year	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Other:			
Balance at beginning of year	\$ (360)	\$ (388)	\$ (550)
Other comprehensive loss	(28)	(162)	(40)
Balance at end of year	<u>\$ (388)</u>	<u>\$ (550)</u>	<u>\$ (590)</u>
Total accumulated other comprehensive loss, net of tax:			
Balance at beginning of year	\$ (232,846)	\$ (191,737)	\$ (248,270)
Change in accounting principle	-	(46,069)	-
Balance at beginning of year, as adjusted	(232,846)	(237,806)	(248,270)
Other comprehensive income (loss)	41,109	(10,464)	(3,420)
Balance at end of year	<u>\$ (191,737)</u>	<u>\$ (248,270)</u>	<u>\$ (251,690)</u>

See Note 5 for further discussion on our marketable securities and see Note 11 for amounts related to our defined benefit pension plans.

Note 16 - Related party transactions:

We may be deemed to be controlled by Ms. Simmons, Ms. Connelly and the Family Trust. See Note 1. Corporations that may be deemed to be controlled by or affiliated with such individuals sometimes engage in (a) intercorporate transactions such as guarantees, management and expense sharing arrangements, shared fee arrangements, joint ventures, partnerships, loans, options, advances of funds on open account, and sales, leases and exchanges of assets, including securities issued by both related and unrelated parties and (b) common investment and acquisition strategies, business combinations, reorganizations, recapitalizations, securities repurchases, and purchases and sales (and other acquisitions and dispositions) of subsidiaries, divisions or other business units, which transactions have involved both related and unrelated parties and have included transactions which resulted in the acquisition by one related party of a publicly-held noncontrolling interest in another related party. While no transactions of the type described above are planned or proposed with respect to us other than as set forth in these financial statements, we continuously consider, review and evaluate, and understand that Contran and related entities consider, review and evaluate such transactions. Depending upon the business, tax and other objectives then relevant, it is possible that we might be a party to one or more such transactions in the future.

Current receivables and payables to affiliates are summarized in the table below:

	December 31,	
	2018	2019
	(In thousands)	
Current receivables from affiliates:		
Refundable income taxes from Valhi	\$ 249	\$ 16
Other - trade items	543	565
Total	<u>\$ 792</u>	<u>\$ 581</u>
Current payables to affiliates:		
Other - trade items	<u>\$ 567</u>	<u>\$ 801</u>

From time to time, we may have loans and advances outstanding between us and various related parties, pursuant to term and demand notes. We generally enter into these loans and advances for cash management purposes. When we loan funds to related parties, we are generally able to earn a higher rate of return on the loan than the lender would earn if the funds were invested in other instruments and when we borrow from related parties, we are generally able to pay a lower rate of interest than we would pay if we borrowed from unrelated parties. While certain of such loans may be of a lesser credit quality than cash equivalent instruments otherwise available to us, we believe that we have evaluated the credit risks involved and reflected those credit risks in the terms of the applicable loans. On November 14, 2016, NLKW entered into the Valhi Credit Facility whereby, we could borrow up to \$50 million. NLKW had borrowings outstanding of \$.5 million as of December 31, 2018 and 2019 under the Valhi Credit Facility, and we incurred a nominal amount of interest expense under such credit facility for the year ended December 31, 2017, 2018 and 2019. See Note 10. In addition, in August 2016 CompX entered into an unsecured revolving demand promissory note with Valhi whereby CompX has agreed to loan Valhi up to \$40 million. CompX's loan to Valhi bears interest at prime plus 1.00%, payable quarterly, with all principal due on demand, but in any event no earlier than December 31, 2021. The amount of CompX's outstanding loans to Valhi at any time is at its discretion. At December 31, 2018 and 2019, the outstanding principal balance receivable from Valhi under the promissory note was \$34.0 million and \$28.1 million, respectively. Interest income (including unused commitment fees) on CompX's loan to Valhi was \$1.8 million in 2017, \$2.1 million in 2018 and \$2.4 million in 2019. On December 31, 2019 (two days after CompX's 2019 fiscal year, but on the last day of the fiscal year for Valhi), CompX loaned \$5.7 million to Valhi, increasing the outstanding principal balance receivable from Valhi under the promissory note to \$33.8 million.

Under the terms of various intercorporate services agreements (ISAs) we enter into with Contran, employees of Contran will provide certain management, tax planning, financial and administrative services to the company on a fee basis. Such charges are based upon estimates of the time devoted by the Contran employees to our affairs and the compensation and other expenses associated with those persons. Because of the number of

companies affiliated with Contran, we believe we benefit from cost savings and economies of scale gained by not having certain management, financial and administrative staffs duplicated at each entity, thus allowing certain Contran employees to provide services to multiple companies but only be compensated by Contran. The net ISA fees charged to us by Contran, (including amounts attributable to Kronos for all periods) aggregated approximately \$24.5 million in 2017, \$32.0 million in 2018 and \$36.1 million in 2019. These agreements are renewed annually.

Contran and certain of its subsidiaries and affiliates, including us, purchase certain of their insurance policies as a group, with the costs of the jointly-owned policies being apportioned among the participating companies. Tall Pines Insurance Company and EWI RE, Inc. provide for or broker certain insurance policies for Contran and certain of its subsidiaries and affiliates, including us. Tall Pines purchases reinsurance from third-party insurance carriers with an A.M. Best Company rating of generally at least A- (excellent) for substantially all of the risks it underwrites. Tall Pines is a subsidiary of Valhi and EWI is a subsidiary of Valhi and us. Consistent with insurance industry practices, Tall Pines or EWI receive commissions from insurance and reinsurance underwriters and/or assess fees for the policies that they provide or broker. Prior to our sale of EWI's insurance and risk management business to a third party in November 2019, EWI brokered certain of our insurance policies, provided claims and risk management services and, where appropriate, engaged certain third-party risk management consultants. The aggregate premiums paid to Tall Pines and EWI by us (including amounts attributable to Kronos for all periods, including its Louisiana Pigment Company joint venture), were \$11.8 million in 2017, \$12.6 million in 2018 and \$14.9 million through the date of the sale in 2019. These amounts principally represent insurance premiums paid to Tall Pines or EWI, including amounts paid to EWI that EWI then remitted, net of brokerage commissions, to insurers. These amounts also include payments to insurers or reinsurers through EWI for the reimbursement of claims within our applicable deductible or retention ranges that such insurers and reinsurers paid to third parties on our behalf, as well as amounts for claims and risk management services and various other third-party fees and expenses incurred by the program. We expect that the relationship with Tall Pines will continue in 2020, except that a third-party brokerage and risk management company is now the broker for Contran's insurance policies and Tall Pines' reinsurance policies.

With respect to certain of such jointly-owned policies, it is possible that unusually large losses incurred by one or more insured party during a given policy period could leave the other participating companies without adequate coverage under that policy for the balance of the policy period. As a result, and in the event that the available coverage under a particular policy would become exhausted by one or more claims, Contran and certain of its subsidiaries and affiliates, including us, have entered into a loss sharing agreement under which any uninsured loss arising because the available coverage had been exhausted by one or more claims will be shared ratably amongst those entities that had submitted claims under the relevant policy. We believe the benefits in the form of reduced premiums and broader coverage associated with the group coverage for such policies justifies the risk associated with the potential for any uninsured loss.

Contran and certain of its subsidiaries, including us, participate in a combined information technology data recovery program that Contran provides from a data recovery center that it established. Pursuant to the program, Contran and certain of its subsidiaries, including us, as a group share information technology data recovery services. The program apportions its costs among the participating companies. The aggregate amount we paid to Contran for such services (including amounts attributable to Kronos for all periods) was \$.2 million in 2017, \$.3 million in 2018 and \$.2 million in 2019. Under the terms of a sublease agreement between Contran and Kronos, Kronos leases certain office space from Contran. In 2019, Kronos paid Contran \$.1 million for such rent and related ancillary services. We expect that these relationships with Contran will continue in 2020.

Note 17 - Commitments and contingencies:

Lead pigment litigation

Our former operations included the manufacture of lead pigments for use in paint and lead-based paint. We, other former manufacturers of lead pigments for use in paint and lead-based paint (together, the “former pigment manufacturers”), and the Lead Industries Association (LIA), which discontinued business operations in 2002, have been named as defendants in various legal proceedings seeking damages for personal injury, property damage and governmental expenditures allegedly caused by the use of lead-based paints. Certain of these actions have been filed by or on behalf of states, counties, cities or their public housing authorities and school districts, and certain others have been asserted as class actions. These lawsuits seek recovery under a variety of theories, including public and private nuisance, negligent product design, negligent failure to warn, strict liability, breach of warranty, conspiracy/concert of action, aiding and abetting, enterprise liability, market share or risk contribution liability, intentional tort, fraud and misrepresentation, violations of state consumer protection statutes, supplier negligence and similar claims.

The plaintiffs in these actions generally seek to impose on the defendants responsibility for lead paint abatement and health concerns associated with the use of lead-based paints, including damages for personal injury, contribution and/or indemnification for medical expenses, medical monitoring expenses and costs for educational programs. To the extent the plaintiffs seek compensatory or punitive damages in these actions, such damages are generally unspecified. In some cases, the damages are unspecified pursuant to the requirements of applicable state law. A number of cases are inactive or have been dismissed or withdrawn. Most of the remaining cases are in various pre-trial stages. Some are on appeal following dismissal or summary judgment rulings or a trial verdict in favor of either the defendants or the plaintiffs.

We believe that these actions are without merit, and we intend to continue to deny all allegations of wrongdoing and liability and to defend against all actions vigorously. Other than with respect to the Santa Clara, California public nuisance case discussed below, we do not believe it is probable that we have incurred any liability with respect to all of the lead pigment litigation cases to which we are a party, and with respect to all such lead pigment litigation cases to which we are a party, other than with respect to the Santa Clara case discussed below, we believe liability to us that may result, if any, in this regard cannot be reasonably estimated, because:

- we have never settled any of the market share, intentional tort, fraud, nuisance, supplier negligence, breach of warranty, conspiracy, misrepresentation, aiding and abetting, enterprise liability, or statutory cases (other than the Santa Clara case discussed below),
- no final, non-appealable adverse judgements have ever been entered against us, and
- we have never ultimately been found liable with respect to any such litigation matters, including over 100 cases over a thirty-year period for which we were previously a party and for which we have been dismissed without any finding of liability.

Accordingly, other than with respect to the Santa Clara case discussed below, we have not accrued any amounts for any of the pending lead pigment and lead-based paint litigation cases filed by or on behalf of states, counties, cities or their public housing authorities and school districts, or those asserted as class actions. In addition, we have determined that liability to us which may result, if any, cannot be reasonably estimated at this time because there is no prior history of a loss of this nature on which an estimate could be made and there is no substantive information available upon which an estimate could be based.

In the matter titled *County of Santa Clara v. Atlantic Richfield Company, et al.* (Superior Court of the State of California, County of Santa Clara, Case No. 1-00-CV-788657) on July 24, 2019, an order approving a global settlement agreement entered into among all of the plaintiffs and the three defendants remaining in the case (the Sherwin Williams Company, ConAgra Grocery Products and us) was entered by the court and the case was dismissed with prejudice. The global settlement agreement provides that an aggregate \$305 million will be paid collectively by the three co-defendants in full satisfaction of all claims resulting in a dismissal of the case with prejudice and the resolution of (i) all pending and future claims by the plaintiffs in the case, and (ii) all potential claims for contribution or indemnity between us and our co-defendants in respect to the case. In the agreement, we

expressly deny any and all liability and the dismissal of the case with prejudice was entered by the court without a final judgment of liability entered against us. The settlement agreement fully concludes this matter.

Under the terms of the global settlement agreement, each defendant must pay an aggregate \$101.7 million to the plaintiffs as follows: \$25.0 million within sixty days of the court's approval of the settlement and dismissal of the case, and the remaining \$76.7 million in six annual installments beginning on the first anniversary of the initial payment (\$12.0 million for the first five installments and \$16.7 million for the sixth installment). Our sixth installment will be made with funds already on deposit at the court that are committed to the settlement, including all accrued interest at the date of payment, with any remaining balance to be paid by us (and any amounts on deposit in excess of the final payment would be returned to us).

As previously disclosed during the second quarter of 2018 and based on the terms of a May 2018 settlement agreement between us and the plaintiffs which had an aggregate cost of \$80 million to us, we determined that the loss to us could be reasonably estimated and recognized a net \$62 million pre-tax charge with respect to this matter (\$45 million for the amount to be paid by us upon approval of the terms of the settlement and \$17 million for the net present value of the five payments aggregating \$20 million to be paid by us in installments beginning four years from such approval). The May 2018 settlement was never approved by the court and was superseded in July 2019 by the global settlement agreement discussed above.

At June 30, 2019, based on the terms of the global settlement agreement approved by the court in July 2019 we increased the amount accrued for the litigation settlement and a final immaterial adjustment was made to the litigation settlement accrual in the third quarter of 2019. For financial reporting purposes, using a discount rate of 1.9% per annum, we discounted the aggregate \$101.7 million settlement to the estimated net present value of \$96.3 million. We recognized litigation settlement expense of \$19.3 million (\$19.6 million expense in the second quarter of 2019 and \$.3 million credit in the third quarter of 2019). We made the initial \$25.0 million payment in September 2019 and recognized an aggregate of \$.6 million in accretion expense in the second half of 2019.

For purposes of our Consolidated Balance Sheet at December 31, 2019, we have recognized the net present value of the \$12.0 million payment due in 2020, \$11.8 million, as a current liability and the net present value of the five remaining annual installments, \$60.1 million, as a noncurrent liability. Under the terms of the settlement, we reclassified the \$15.6 million on deposit at the court from an accrued insurance receivable to noncurrent restricted cash during the third quarter. Pursuant to the settlement agreement, also during the third quarter of 2019 we placed an additional \$9.0 million into an escrow account which is included in noncurrent restricted cash on our Consolidated Balance Sheet.

In November 2018, NL was served with two complaints filed by county governments in Pennsylvania. Each county alleges that NL and several other defendants created a public nuisance by selling and promoting lead-containing paints and pigments in the counties. The plaintiffs seek abatement and declaratory relief. We believe these lawsuits are inconsistent with Pennsylvania law and without merit, and we intend to defend ourselves vigorously.

New cases may continue to be filed against us. We cannot assure you that we will not incur liability in the future in respect of any of the pending or possible litigation in view of the inherent uncertainties involved in court and jury rulings. In the future, if new information regarding such matters becomes available to us (such as a final, non-appealable adverse verdict against us or otherwise ultimately being found liable with respect to such matters), at that time we would consider such information in evaluating any remaining cases then-pending against us as to whether it might then have become probable we have incurred liability with respect to these matters, and whether such liability, if any, could have become reasonably estimable. The resolution of any of these cases could result in the recognition of a loss contingency accrual that could have a material adverse impact on our net income for the interim or annual period during which such liability is recognized and a material adverse impact on our consolidated financial condition and liquidity.

Environmental matters and litigation

Our operations are governed by various environmental laws and regulations. Certain of our businesses are and have been engaged in the handling, manufacture or use of substances or compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of our past and current operations and products have the potential to cause environmental or other damage. We have implemented and continue to implement various policies and programs in an effort to minimize these risks. Our policy is to maintain compliance with applicable environmental laws and regulations at all of our plants and to strive to improve environmental performance. From time to time, we may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes, the resolution of which typically involves the establishment of compliance programs. It is possible that future developments, such as stricter requirements of environmental laws and enforcement policies, could adversely affect our production, handling, use, storage, transportation, sale or disposal of such substances. We believe that all of our facilities are in substantial compliance with applicable environmental laws.

Certain properties and facilities used in our former operations, including divested primary and secondary lead smelters and former mining locations, are the subject of civil litigation, administrative proceedings or investigations arising under federal and state environmental laws and common law. Additionally, in connection with past operating practices, we are currently involved as a defendant, potentially responsible party (PRP) or both, pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act (CERCLA), and similar state laws in various governmental and private actions associated with waste disposal sites, mining locations, and facilities that we or our predecessors, our subsidiaries or their predecessors currently or previously owned, operated or used, certain of which are on the United States Environmental Protection Agency's (EPA) Superfund National Priorities List or similar state lists. These proceedings seek cleanup costs, damages for personal injury or property damage and/or damages for injury to natural resources. Certain of these proceedings involve claims for substantial amounts. Although we may be jointly and severally liable for these costs, in most cases we are only one of a number of PRPs who may also be jointly and severally liable, and among whom costs may be shared or allocated. In addition, we are occasionally named as a party in a number of personal injury lawsuits filed in various jurisdictions alleging claims related to environmental conditions alleged to have resulted from our operations.

Obligations associated with environmental remediation and related matters are difficult to assess and estimate for numerous reasons including the:

- complexity and differing interpretations of governmental regulations,
- number of PRPs and their ability or willingness to fund such allocation of costs,
- financial capabilities of the PRPs and the allocation of costs among them,
- solvency of other PRPs,
- multiplicity of possible solutions,
- number of years of investigatory, remedial and monitoring activity required,
- uncertainty over the extent, if any, to which our former operations might have contributed to the conditions allegedly giving rise to such personal injury, property damage, natural resource and related claims, and
- number of years between former operations and notice of claims and lack of information and documents about the former operations.

In addition, the imposition of more stringent standards or requirements under environmental laws or regulations, new developments or changes regarding site cleanup costs or the allocation of costs among PRPs, solvency of other PRPs, the results of future testing and analysis undertaken with respect to certain sites or a determination that we are potentially responsible for the release of hazardous substances at other sites, could cause our expenditures to exceed our current estimates. We cannot assure you that actual costs will not exceed accrued amounts or the upper end of the range for sites for which estimates have been made, and we cannot assure you that costs will not be incurred for sites where no estimates presently can be made. Further, additional environmental and related matters may arise in the future. If we were to incur any future liability, this could have a material adverse effect on our consolidated financial statements, results of operations and liquidity.

We record liabilities related to environmental remediation and related matters (including costs associated with damages for personal injury or property damage and/or damages for injury to natural resources) when estimated future expenditures are probable and reasonably estimable. We adjust such accruals as further information becomes available to us or as circumstances change. Unless the amounts and timing of such estimated future expenditures are fixed and reasonably determinable, we generally do not discount estimated future expenditures to their present value due to the uncertainty of the timing of the payout. We recognize recoveries of costs from other parties, if any, as assets when their receipt is deemed probable. At December 31, 2018 we had recognized \$15.0 million of receivables for recoveries related to the lead pigment litigation in California discussed above and at December 31, 2019, we had not recognized any receivables for recoveries.

We do not know and cannot estimate the exact time frame over which we will make payments for our accrued environmental and related costs. The timing of payments depends upon a number of factors, including but not limited to the timing of the actual remediation process; which in turn depends on factors outside of our control. At each balance sheet date, we estimate the amount of our accrued environmental and related costs which we expect to pay within the next twelve months, and we classify this estimate as a current liability. We classify the remaining accrued environmental costs as a noncurrent liability.

The table below presents a summary of the activity in our accrued environmental costs during the past three years. The amount charged to expense is included in corporate expense on our Consolidated Statements of Operations.

	Years ended December 31,		
	2017	2018	2019
		(In thousands)	
Balance at the beginning of the year	\$ 116,658	\$ 111,909	\$ 98,211
Additions charged (credited) to expense, net	3,376	2,735	(579)
Payments, net	(8,125)	(16,433)	(3,124)
Balance at the end of the year	<u>\$ 111,909</u>	<u>\$ 98,211</u>	<u>\$ 94,508</u>
Amounts recognized in the balance sheet:			
Current liability	\$ 5,302	\$ 5,027	\$ 3,065
Noncurrent liability	106,607	93,184	91,443
Balance at the end of the year	<u>\$ 111,909</u>	<u>\$ 98,211</u>	<u>\$ 94,508</u>

On a quarterly basis, we evaluate the potential range of our liability for environmental remediation and related costs at sites where we have been named as a PRP or defendant, including sites for which our wholly-owned environmental management subsidiary, NL Environmental Management Services, Inc., (EMS), has contractually assumed our obligations. At December 31, 2019, we had accrued approximately \$94.5 million related to approximately 32 sites associated with remediation and related matters that we believe are at the present time and/or in their current phase reasonably estimable. The upper end of the range of reasonably possible costs to us for remediation and related matters for which we believe it is possible to estimate costs is approximately \$115 million, including the amount currently accrued. These accruals have not been discounted to present value.

We believe that it is not reasonably possible to estimate the range of costs for certain sites. At December 31, 2019, there were approximately five sites for which we are not currently able to reasonably estimate a range of costs. For these sites, generally the investigation is in the early stages, and we are unable to determine whether or not we actually had any association with the site, the nature of our responsibility, for the contamination at the site, if any, and the extent of contamination at and cost to remediate the site. The timing and availability of information on these sites is dependent on events outside of our control, such as when the party alleging liability provides information to us. At certain of these previously inactive sites, we have received general and special notices of liability from the EPA and/or state agencies alleging that we, sometimes with other PRPs, are liable for past and future costs of remediating environmental contamination allegedly caused by former operations. These notifications may assert that we, along with any other alleged PRPs, are liable for past and/or future clean-up costs. As further information becomes available to us for any of these sites which would allow us to estimate a range of costs, we would at that time adjust our accruals. Any such adjustment could result in the recognition of an accrual that would have a material effect on our consolidated financial statements, results of operations and liquidity.

Insurance coverage claims

We are involved in certain legal proceedings with a number of our former insurance carriers regarding the nature and extent of the carriers' obligations to us under insurance policies with respect to certain lead pigment and asbestos lawsuits. The issue of whether insurance coverage for defense costs or indemnity or both will be found to exist for our lead pigment and asbestos litigation depends upon a variety of factors and we cannot assure you that such insurance coverage will be available.

We have agreements with three former insurance carriers pursuant to which the carriers reimburse us for a portion of our future lead pigment litigation defense costs, and one such carrier reimburses us for a portion of our future asbestos litigation defense costs. We are not able to determine how much we will ultimately recover from these carriers for defense costs incurred by us because of certain issues that arise regarding which defense costs qualify for reimbursement. While we continue to seek additional insurance recoveries, we do not know if we will be successful in obtaining reimbursement for either defense costs or indemnity. Accordingly, we recognize insurance recoveries in income only when receipt of the recovery is probable and we are able to reasonably estimate the amount of the recovery.

Other litigation

In addition to the litigation described above, we and our affiliates are also involved in various other environmental, contractual, product liability, patent (or intellectual property), employment and other claims and disputes incidental to present and former businesses. In certain cases, we have insurance coverage for these items, although we do not expect additional material insurance coverage for environmental matters. We currently believe the disposition of all of these various other claims and disputes (including asbestos-related claims), individually and in the aggregate, should not have a material adverse effect on our consolidated financial position, results of operations or liquidity beyond the accruals already provided.

Concentrations of credit risk

Component products are sold primarily in North America to original equipment manufacturers. The ten largest customers related to our operations accounted for approximately 44% in each of 2017 and 2018 and 47% in 2019. One customer of CompX's Security Products business accounted for 16% of total sales in 2017, 13% in 2018 and 14% in 2019.

Income taxes

We and Valhi are a party to a tax sharing agreement providing for the allocation of tax liabilities and tax payments as described in Note 1. Under applicable law, we, as well as every other member of the Contran Tax Group, are each jointly and severally liable for the aggregate federal income tax liability of Contran and the other companies included in the Contran Tax Group for all periods in which we are included in the Contran Tax Group. Valhi has agreed, however, to indemnify us for any liability for income taxes of the Contran Tax Group in excess of our tax liability computed in accordance with the tax sharing agreement.

Note 18 - Financial instruments:

See Note 5 for information on how we determine fair value of our marketable securities.

The following table presents the financial instruments that are not carried at fair value but which require fair value disclosure as of December 31, 2018 and 2019:

	<u>December 31, 2018</u>		<u>December 31, 2019</u>	
	<u>Carrying amount</u>	<u>Fair value</u>	<u>Carrying amount</u>	<u>Fair value</u>
	(In thousands)			
Cash, cash equivalents and restricted cash	\$ 120,989	\$ 120,989	\$ 157,870	\$ 157,870
Noncontrolling interest in CompX common stock	19,443	22,871	22,707	24,627

The fair value of our noncontrolling interest in CompX stockholders' equity is based upon its quoted market price at each balance sheet date, which represents Level 1 inputs. Due to their near-term maturities, the carrying amounts of accounts receivable and accounts payable are considered equivalent to fair value.

Note 19 – Recent accounting pronouncements:

Adopted

On January 1, 2019, we adopted ASU 2016-02, *Leases (Topic 842)*, which was a comprehensive rewriting of the lease accounting guidance which aimed to increase comparability and transparency with regard to lease transactions. The primary change for leases currently classified as operating leases is the balance sheet recognition of a lease asset for the right to use the underlying asset and a lease liability for the lessee's obligation to make payments. Due to our minimal utilization of lease financing, the adoption of this standard did not have a material effect on our consolidated financial statements.

Pending Adoption

In December 2019, the Financial Accounting Standards Board issued ASU 2019-12, *Simplifying the Accounting for Income Taxes*, which changes the accounting for certain income tax transactions and reduces complexity in accounting for income taxes in certain areas. The ASU introduces new guidance including providing a policy election for an entity to not allocate consolidated current and deferred tax expense when a member of a consolidated tax return is not subject to income tax in its separate financial statements and is a disregarded entity by the taxing authority; and providing guidance to evaluate whether a step-up in tax basis of goodwill relates to a business combination in which book goodwill was recognized or a separate transaction. The ASU also changes existing guidance in a number of areas, including: the method of making an intraperiod allocation of total income tax expense if there is a loss in continuing operations and gains outside of continuing operations; determining when a deferred tax liability is recognized after an investor in a non-U.S. entity transitions to or from the equity method of accounting; accounting for tax law changes and year-to-date losses in interim periods; and determining how to apply the income tax guidance to franchise taxes that are partially based on income. The amendments in ASU 2019-12 are effective for us beginning in the first quarter of 2021, with early adoption permitted. We expect to adopt this ASU in the first quarter of 2020 and we do not expect the adoption to have a material effect on our Consolidated Financial Statements.

Note 20 – Quarterly results of operations (unaudited):

	Quarter ended			
	March 31	June 30	September 30	December 31
(In millions, except per share data)				
Year ended December 31, 2018				
Net sales	\$ 28.4	\$ 32.4	\$ 30.0	\$ 27.4
Gross margin	9.5	11.2	9.6	7.9
Net income (loss)	14.7	(42.0)	(14.9)	3.1
Amounts attributable to NL stockholders:				
Net income (loss)	<u>\$ 14.2</u>	<u>\$ (42.6)</u>	<u>\$ (15.4)</u>	<u>\$ 2.8</u>
Income (loss) per common share	<u>\$.29</u>	<u>\$ (.87)</u>	<u>\$ (.32)</u>	<u>\$.06</u>
Year ended December 31, 2019				
Net sales	\$ 31.2	\$ 33.7	\$ 29.7	\$ 29.6
Gross margin	9.6	11.0	9.4	9.0
Net income (loss)	15.7	6.6	(1.0)	6.7
Amounts attributable to NL stockholders:				
Net income (loss)	<u>\$ 15.2</u>	<u>\$ 5.9</u>	<u>\$ (1.6)</u>	<u>\$ 6.3</u>
Income (loss) per common share	<u>\$.31</u>	<u>\$.12</u>	<u>\$ (.03)</u>	<u>\$.13</u>

We recognized the following amounts during 2018:

- loss of \$49.0 million, net of income taxes, in the second quarter related to the litigation settlement expense (see Note 17); and
- loss of \$.9 million in the fourth quarter, net of income taxes, included in our equity in earnings of Kronos related to Kronos' current income tax expense on global intangible low-tax income.

We recognized the following amounts during 2019:

- loss of \$15.2 million, net of income tax expense, mainly in the second quarter related to the litigation settlement expense (see Note 17);
- income of \$3.5 million, net of income tax expense, in the third quarter related to a gain from a sale of excess property (see Note 13);
- income of \$2.4 million, net of income tax expense, in the fourth quarter related to a gain from the sale of our insurance and risk management business (see Note 13);
- income of \$4.1 million, net of income tax expense, (\$.2 million, \$3.7 million and \$.2 million in the first, second and third quarters, respectively) related to insurance recoveries (see Note 17);
- loss of \$1.3 million included in our equity in earnings of Kronos related to Kronos' fourth quarter recognition of a non-cash deferred income tax expense primarily related to the revaluation of Kronos' net deferred income tax asset in Germany as a result of a decrease in the German trade tax rate (see Note 14);
- income of \$.7 million included in our equity in earnings of Kronos related to Kronos' fourth quarter recognition of an income tax benefit related to the favorable settlement of a prior year tax matter in Germany (see Note 14); and
- income of \$.5 million, included in our equity in earnings of Kronos, related to Kronos' insurance settlement gain recognized in the fourth quarter.

The sum of the quarterly per share amounts may not equal the annual per share amounts due to relative changes in the weighted average number of shares used in the per share computations.

SUBSIDIARIES OF THE REGISTRANT

NAME OF CORPORATION	Jurisdiction of incorporation or organization	% of voting securities held at December 31, 2019 (1)
CompX International Inc. (2)	Delaware	87
Kronos Worldwide, Inc. (3)	Delaware	30
EWIRE, Inc.	New York	100
EWIRE (UK), LIMITED	United Kingdom	100
NL Environmental Management Services, Inc.	New Jersey	100
United Lead Company	New Jersey	100
NLKW Holding, LLC	New Jersey	100

- (1) Held by the Registrant or the indicated subsidiary of the Registrant
- (2) Subsidiaries of CompX International Inc. are incorporated by reference to Exhibit 21.1 of CompX's Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 1-13905)
- (3) Subsidiaries of Kronos Worldwide, Inc. are incorporated by reference to Exhibit 21.1 of Kronos' Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 1-31763)

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