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# EHS at USG: Every Minute, Every Task, Every Day

Submitted by:  
**USG Corporation**

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2016

Robert W. Campbell Award

By USG Corporation



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## EXECUTIVE SUMMARY

USG Corporation (NYSE: USG), a leader in building materials and technologies, manufactures and distributes products that enable customers to create sustainable, inspirational, inviting and safe spaces. Founded nearly 115 years ago, we are a multinational business employing approximately 8,900 people in manufacturing plants, mines, distribution branches, our innovation center and corporate headquarters.

While our company has grown and looks much different than when we were founded in 1902, our commitment to the safety and well-being of our employees and the communities in which we operate remains the same. Our founders' strong conviction that safety was the right thing to do for our people, our customers and our business laid the foundation for our safety-first culture – a culture we pride ourselves on today.

We act swiftly to adapt our policies and to educate our employees, customers and peers. We hold ourselves accountable by setting aggressive goals and tracking our progress towards those goals through leading and lagging indicators. Most importantly, we regularly communicate our results to our employees, shareholders and the public.

Our efforts to continuously improve our Environmental, Health and Safety (EHS) programs earned us the trust and respect of our employees and have distinguished us in the industry. Our safety results in manufacturing are 17 times better than the industry average and our distribution business results are six times better than the average for that industry. We earned the Mine Safety and Health Administration's (National Mining Association) "Sentinels of Safety" award 15 times, and 14 of our manufacturing locations and three distribution facilities qualified as Stars under the Occupational Safety and Health Administration's Voluntary Protection Program. More than 200 of our products are certified as GREENGUARD Gold low-emitting products and we are a founding member of the United States Green Building Council. In addition, we have reduced our total energy use by 11 percent since 2008.

The results we achieved would not be possible without strong support from our company's leadership for excellence in EHS performance, and a commitment by all of our employees to work safely at every task, every minute, every day. We made great progress on EHS over the course of our history, but we believe there is no final destination. We remain dedicated to continuous improvement towards our 2020 Ecoblueprint™ environmental goals and safety goals. We remain committed to being a world-class employer and good corporate citizen.

## SECTION 1: BUSINESS PROFILE

### Business Description and Organizational Chart

Our company’s innovative building solutions enable our customers to create inspirational, inviting and safe spaces to live, work and play. From our inception, we have expanded the boundaries of building science with products and systems that are safer, lighter, stronger and more sustainable.

We are North America's leading innovator and producer of gypsum wallboard, joint compound and a vast array of related products for the construction and remodeling industries. We are also a leader in the manufacturing of acoustical ceilings and suspension systems. Our family of products provides creative building solutions that set new standards for productivity and efficiency, helping contractors and architects deliver high quality and innovative designs. Our brands, Sheetrock®, Durock®, Fiberock® Donn and many more, are household names for builders, contractors, remodelers and homeowners alike. Our products were used to build some of the world’s most iconic structures, including the Burj Khalifa in Dubai and One World Trade Center in New York.

Our manufacturing operations currently fall under the following North American Industry Classification Systems (NAICS) codes:

Code	Description	Percentage of Business
332323	Ornamental and Architectural Metal Work Manufacturing	5%
325520	Adhesive Manufacturing	16%
327420	Gypsum Product Manufacturing	53%
327993	Mineral Wool Manufacturing	14%
327390	Other Concrete Product Manufacturing	4%
32212	Paper Mills	8%

Headquartered in Chicago, Illinois, we employ more than 8,900 people worldwide. Many of our operations are staffed by multiple generations of the same families – a true testament to our strong family culture. A few examples include:



The Dearman family of Windsor, Nova Scotia, Canada has contributed a combined 160 years of total service at USG. Dumps Dearman, above, proudly wears his grandfather’s hardhat. Both of his grandfathers, Maurice Dearman and Gordon Caldwell, and several brothers and uncles have all been a valuable part of our company.



In Baltimore, Maryland, 13 members of the Bullock family have worked at USG since 1950, including (clockwise from top left) Robert Bullock, Raymond Bullock, James Elliot and Joe Bullock.



The Houck family has a combined 131 years of experience at USG. Leon, Rodney, Les and Nathan are just a few of the family members who continue the tradition.

Our core values guide the way we do business every day.

- **Safety:** Safety is the most important part of any job we do — in our plants and mines, on construction sites where we deliver materials, even in our offices. We firmly believe that no job is so important or so urgent that it cannot be done safely.
- **Quality:** Everything we make, and everything we do, must be the best that it can be. Quality means that our products are consistently well-made and perform as promised every single time. Superior quality leads to customer satisfaction and allows us to receive a premium price for our materials.
- **Service:** We have a commitment to our customers and serving them with excellence. We care about them, listen to them and work to anticipate their needs and solve their problems. Customer satisfaction is a priority for everyone in the organization.
- **Efficiency:** Efficient, low-cost production and delivery ensure a healthy bottom line. We have the most modern and most efficient production capacity in this industry. By leveraging our cost advantage over our competitors, we remain competitive regardless of economic conditions and construction cycles.
- **Innovation:** This value has made it possible for our company to become what it is today. We are proud to have a long list of innovations in the building materials industry. Through these advancements, we will continue to find better ways to manufacture and deliver products, serve customers, sell our goods and support the construction industry in its efforts to build inspiring structures.
- **Integrity:** This underlies all we do. We believe it is vital that the people who work with us trust us, whether they are customers, suppliers, investors, colleagues or our neighbors in the communities in which we operate.
- **Diversity:** The people who make up our worldwide teams come from every imaginable background. Our international reach extends to locations as far off as the Middle East, Africa, Europe, Latin America, the Caribbean and the Pacific Rim. Having a diverse and inclusive workplace is crucial to our ability to attract and retain talented employees, connect with an increasingly diverse customer base and be more effective competitors in the international marketplace.

Safety has been and continues to be our first core value since our safety rules were documented in 1914 (*Appendix 1*), long before workers' compensation, regulatory laws or even the National Safety Council existed. Reflecting on the words captured here so long ago, it is remarkable to see how the message of cooperation, compliance, consideration for others and dedication of resources to maintain a safe operation were standard vocabulary even in our very earliest days.

With our roots in mining, our founders recognized that a strong safety program was critical to our success. They brought to the company the conviction that safety is not only the right thing to do for our people, our customers and our business, but it is the backbone of our operations. This remains true today.

Our submission will cover the following business units: United States Gypsum Company, CGC Inc., USG Mexico and USG Interiors, LLC. For all of these business units, EHS starts with leadership and flows down through the organization. Our EHS Organizational Charts (*Appendix 2*) depict this flow.

## EHS and Business Challenges

Every company faces a variety of business challenges when it comes to EHS. One challenge for USG is the sheer complexity of our operations. From the mining of rock to the high temperature melting of mineral fiber, and from the production of 100 percent recycled paper to the manufacture of suspended ceiling systems, our operations are multifaceted and continuous. We operate hundreds of commercial vehicles, passenger autos, mining vehicles and a train.

With this complexity comes the opportunity to incorporate smart EHS practices into all facets of our businesses around the world. Since day one, it has been our priority to ensure consistent application of our EHS philosophy across every USG operation. We maintain this pursuit and believe we grow closer to this vision each day.

## SECTION 2: LEADERSHIP

### Organizational Leadership

EHS is everyone's responsibility at our company and this starts with our Chairman, President and CEO James (Jim) Metcalf. As a champion of our safety-first culture, in meetings – whether it is with our Board of Directors, investors or employees – Jim makes a point of reviewing our safety performance. He also highlights progress made towards our EHS goals (*Appendix 3*), and areas where we can improve.

To continue to advance our EHS practices, Jim supported the formation of an Executive Safety Steering Committee in 2014, which consists of individuals at the highest levels of our organization. The committee's mission is to serve as an operations and safety leadership forum. Members learn from one another and share issues and ideas, shaping our long-term safety strategy. Beyond providing thought leadership, the committee has been instrumental in the creation of a safety vision statement, the promotion of non-routine task and hazard recognition training, raising awareness regarding the dangers of distracted driving, and the development and introduction of our leading indicator self-assessment tool, a complement to our longstanding Safety Activity Rating (SAR) audit process.

The SAR is a broad-based, standardized inspection tool designed to evaluate facility operations. In the early 1990s, certified safety professionals performed audits of our Texas operations. Those locations that received this thorough, two- to three-day audit saw vast improvements in safety performance over those that did not. Manufacturing leadership and plant managers expressed a desire to expand and standardize this audit process to involve operations personnel, not just safety professionals. The safety department, plant managers and other manufacturing leaders worked together to develop a standard audit protocol to rate facility operations. This became known as the SAR. While the program has been enhanced several times over the years, the fundamental process remains the same today, as teams of managers, supervisors and employees routinely visit other sites to perform audits using the SAR document.

A key component of a site's SAR rating is related to management's involvement. The rating takes into account management's focus on safety through routine one-on-one meetings with

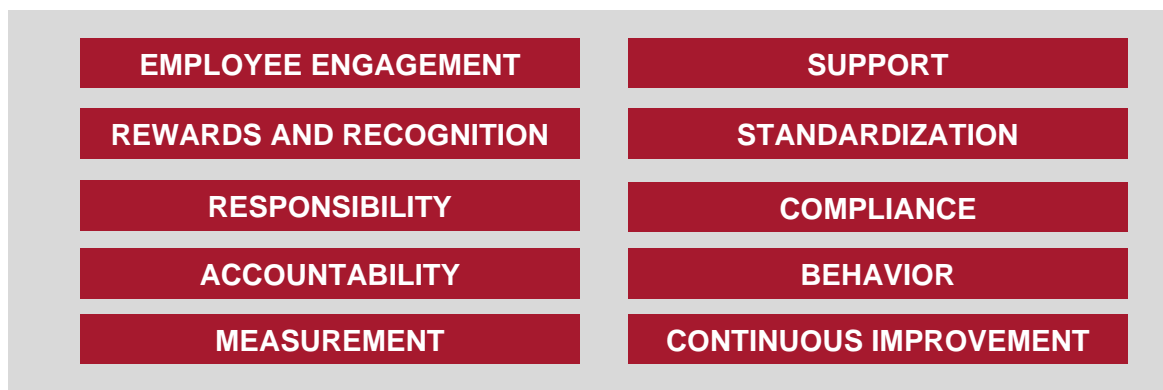
employees, support of the new hire orientation process, as well as the degree to which they engage and support the location's safety team.

Since the implementation of the SAR, we have seen a **60 percent decrease in our total case incident rate and days away, restrictions or transfers case rate**. It has also resulted in heightened awareness of safety among employees, increased participation in safety programs and increased compliance with regulations.

It is our strong commitment to safety that keeps our facilities more productive and it is why our employees are able to go home after every shift to their families.

### Commitment to EHS Goals

Accountability for our EHS goals permeates throughout all levels of our organization. While our leaders are champions of this effort, it is the responsibility of each and every employee. This is a key component of our Safety Tenets, which include the following, and full descriptions are available in *Appendix 4*.



Employees are rated in regards to their safety performance in their annual review. We monitor safety contributions at every level. In our U.S. and Canadian manufacturing operations, hourly employees' overall performance rating can be no higher than the results of the safety component of their evaluation. Our managers are also evaluated on their safety leadership results.

In addition, every year, a safety goal is established for the overall corporation and our major operating units. We share our progress towards this goal with employees every month, and with our Board of Directors and investors on a quarterly basis.

The external recognition we receive showcases our employees' commitment to EHS, including these examples:

- Named one of **America's Safest Companies** by *EHS Today* magazine in 2015
- Earned the Mine Safety and Health Administration's/National Mining Association's **Sentinels of Safety** award 15 times—among the most of any company
- 14 manufacturing locations and three distribution facilities have qualified as **Stars under OSHA's Voluntary Protection Program**



- Named a **Top Workplace** by the *Detroit Free Press* in 2014, 2015
- Received an **EDF Award for Environmental Remediation**
- Wildlife Habitat Council recognized our former Midland Mine for having a **Certified Wildlife Habitat Program** from 2006 – 2008
- First building products manufacturing company to **voluntarily register and certify greenhouse gas emissions** in California
- Designated a **Climate Action Leader** by the former California Climate Action Registry for the reporting years 2004 – 2007
- Winner of two **2016 Wisconsin Safety Council Corporate Safety Awards** for our plants in Delavan, Wisconsin, and in Walworth, Wisconsin.

## Organizational Culture/Climate

Our employees' commitment to EHS also forms our company culture, one that is focused on safety, sustainability and citizenship. Employees do not look to their manager or supervisor to tell them the safest or most environmentally responsible way to do their job. They tell us.

One example of our employees' personal commitment to EHS occurred in January 1997 when a truck leaking a corrosive chemical arrived at USG's Westlake, Ohio, facility. The facility houses American Metals Corporation (AMC) and USG Interiors Inc.'s ceiling grid plant. Punctured on the way to the plant, a chemical barrel leaked onto USG's property near two city sewers. Employees quickly responded according to the protocols of our Hazardous Response Training (HRT) program.

When the fire department arrived, our employees already contained the spill and prepared instructions for the fire department and material safety data sheets for the chemicals. The initiative taken by our employees protected both the facility and entire Westlake community.

This is just one example of how our employees actively identify hazards and develop and implement plans to address them. They lead our safety committees, conduct safety audits of our facilities (*Appendix 5*) and develop safe work procedures. Leadership's role is to support and encourage complete engagement through head, heart and hands.

Another example of our strong employee participation in EHS is our recent Safety Vision Statement Contest, in which employees participated in the development of our new vision. More information about the contest is in SECTION 3: INTEGRATED EHS MANAGEMENT SYSTEM.

## Citizenship

We are committed to being good corporate citizens in the communities where we live, work and play. Our mission is to leave the world a better place than we found it by supporting our local communities and implementing responsible environmental practices.

Community service is a personal priority for the compassionate individuals that work here. Our employees donate their time and energy to a variety of worthy causes like Engineers Without Borders, Chicago Cares, American Red Cross, American Heart Association and Habitat for Humanity.

Working together, our employees have the power to create a positive impact. An example of this is our annual food drive (*Appendix 6*). Employees from our locations around the world rise up to

the challenge and have surpassed the pounds of food collected the year prior. Our 2015 results are as follows:



Additionally, we offer philanthropic support through the USG Foundation (*Appendix 7*) and its ongoing programs, including the following:

- **USG Matching Gifts Program:** We match qualifying contributions of cash made by our active and retired employees to non-profit civic, education, health and welfare, arts and cultural organizations at 50 cents on the dollar up to an annual maximum match of \$2,500 per employee per year. **Matching gifts total approximately \$100,000 per year.** Additionally, if an employee volunteers 25 hours in one year with an organization that meets the qualifications of the program, the Foundation will donate \$250.00 to that organization on the employee's behalf.
- **United Way:** The Foundation **contributes up to \$50,000 per year in matching funds** for the United Way of Metropolitan Chicago and the United Way of Lake County, Illinois.
- **USG Foundation Scholarship Program:** Through the National Merit Scholarship Program, each year the Foundation awards \$2,000 per year for four years to eight children of USG employees. **Total annual cost is about \$75,000.**
- **The Helping Hands Program:** The program recognizes outstanding employees who volunteer their time for a variety of causes, including animal welfare, children's services and veteran assistance. We recognized 10 employees for their efforts in 2014, and the Foundation made **grants to these organizations on their behalf totaling \$20,000.**

We are also working to raise awareness of issues important to our industry and our communities such as Science, Technology, Engineering and Math (STEM) education and opportunities for women in manufacturing.

Recently, the Manufacturing Institute named one of our employees at the Corporate Innovation Center in Libertyville, Illinois, as a recipient of the 2016 STEP Ahead Award. This honor recognizes 130 women across organizational levels who have achieved excellence in manufacturing and STEM and reflects the individual achievements of our employees as well as our culture of empowering diversity in our manufacturing leadership. It is an important initiative for our industry, and we were proud to have one of our employees recognized.

## SECTION 3: INTEGRATED EHS MANAGEMENT

### Policies, Goals and Objectives

Our policies, goals and objectives for EHS center on helping our company thrive not only as a business but as a community. In the early 1900s, company-owned towns were formed around our operations, such as Southard, Oklahoma, Gypsum, Ohio, and Plaster City, California. Images of these towns are in *Appendix 8*.

Employees worked together and lived together as friends and neighbors. This led to a sense of community that strengthened safety accountability among our employees. Although our last company town is now closed, the same sense of care and mutual trust is alive in our operations today.

With this longstanding, safety-first culture in mind, we asked our employees to define our new safety vision. Teams from offices and plants alike submitted videos that expressed what safety means to them. The safety vision submissions, compiled in a video in *Appendix 9*, demonstrate our employees' passion for safety and the pride members of our team take in caring for one another. As a result of everyone's input, we crafted an official Safety Vision Statement to which every employee can truly relate:

***“We will be the industry leader in health and safety by creating an injury-free workplace and modeling safe behaviors for our families, colleagues, customers, and communities. We are committed to working safely: every minute, every task, and every day—so we can live life to the fullest with those who depend on us.”***

Our Safety Vision Statement influences how we run our business and guides our goal setting. It reflects the same motivations for working safely we recognized in our earliest days and affirms safety is our top priority.

Each year, we establish a safety goal for our corporation and our major operating units. We monitor safety performance at every level and routinely report on results internally and to our Board of Directors and investors to maintain accountability. The measures we use to set goals and objectives for safety include:

- **Industry Best Practices:** We learn about best practices from our peers in various industries through participation in organizations such as the Campbell Institute, Gypsum Association and a number of other trade groups.
- **Compliance with Regulation:** We proactively monitor emerging changes in regulatory requirements through a variety of sources such as the National Safety Council's *Safety + Health* magazine, Occupational Safety and Health Administration's *Up to Date* newsletter, the American Society of Safety Engineers' *Professional Safety* magazine, *Bloomberg BNA's Occupational Safety and Health Reporter* and a number of other sources. Our early compliance with the OSHA Global Harmonization Standard, which inspired us to revamp our product packaging in order to more safely and clearly communicate classified hazards, is an example of our commitment in this area.
- **CORE Web-Based Incident Management and Auditing:** We track safety incidents and audits through a web-based tool called CORE. The reports generated through CORE

allow us to monitor compliance with policies and programs as well measure our safety outcomes. We continuously monitor to stay ahead of emerging trends in incidents across the organization, and we adjust operating procedures accordingly, targeting common issues across locations. More information on this tool can be found in SECTION 4: PERFORMANCE MEASUREMENT AND INFORMATION MANAGEMENT.

Our respect for the communities in which we live, work and play extends to sustaining the larger natural community that we all inhabit. We are focused on building spaces and designing products that are in sync with the environments in which they are developed, manufactured, distributed and ultimately used.

We were committed to being a sustainable company long before "sustainability" and "green" became popular terms. It's the way we have always done business. We have always been concerned about how to reduce waste, use resources more efficiently and transform manufacturing byproducts into valuable resources.

In 1903, the United States Gypsum Company was the first to introduce a thin, light-weight fire resistant Gypsum Masonry Unit called Pyrobar. The evolution of improved building science continued with innovative materials and systems introduced to the construction market by USG over the last 100 plus years. The latest evolution is a recent introduction of a family of lighter-weight gypsum panels (USG Sheetrock® Brand UltraLight Panels), which use fewer raw materials while retaining their high performance properties. Our history of innovation has led us to develop some of our industry's most forward-thinking, environmentally friendly building products, which incorporate recycled and secondary waste materials, use minimal packaging and perform throughout a building's lifespan with minimal routine maintenance required. A timeline of our sustainability practices can be found in *Appendix 10*.

We define sustainability from a triple bottom line perspective, balancing environmental, economic and social factors to provide long-term value for our employees, our stakeholders and society. This perspective provides a guiding benchmark for setting goals and evaluating processes in regards to environmental standards. We use a number of audits and data from our evaluation process to achieve our sustainability goals. These evaluation methods include the following:

- Environmental Audits
- Quarterly Compliance Reporting
- Healthy Product Evaluations – Chemicals of Concern List
- Green Chemistry Focus
- Greenguard VOC Emissions Reporting
- OSHA GHS Leadership
- LCA and EPD's – ISO14040
- Material Safety Assessment Review (MSAR)
- Material Testing Program Prior to Use

In 2009, we established our **Ecoblueprint™**, which guides our strategy for environmental sustainability. It includes:

- **Develop Responsible Solutions**
- **Enhance Energy Management**
- **Improve How We Use Resources**



Our **Corporate Sustainability Report**, published every two years and available on our website, outlines long-term sustainability goals for effectively managing the way we use energy, reduce greenhouse gas emissions, improve resource utilization and provide responsible customer solutions.

We set goals by prioritizing the factors that are most material to our stakeholders and by developing aggressive strategies that stretch the organization beyond current capabilities to encourage innovation and outside-the-box thinking. We use the following approaches:

- **Life-Cycle Assessment Tools:** Through the use of environmental Life Cycle Assessment tools, we better understand how our actions throughout the product lifecycle impact the environment. Ultimately, this science helps us to determine which goals will allow maximum minimization of negative environmental impacts.
- **Compliance Management System:** Our web-based Compliance Management System (CMS) tracks and manages environmental incidents and audits, including applicable corrective actions, along with a facilities' environmental compliance calendar.

## Communications

As we expand internationally, it is more important than ever for our plant managers to report accurate results and concerns to our corporate operations, as well as to share consistent policies and procedures with employees. Where the safety and well-being of our teams, customers and communities are concerned, timely and correct information is imperative. To facilitate this communications process, we implemented the Directions Training program.

During the Directions Trainings program, our plant supervisors and managers undergo an intensive development course that provides foundational tools for the effective coaching, communication and leadership required to keep our locations running smoothly. Our leadership team has also gone through the program and is required to model the tenets of Directions Training in their day-to-day operations. As a result of Directions Training, our employees better understand their own communication style as well as those of other team members, leading to deepened trust, increased communication and cooperative relationships.

Beyond our extensive internal training, we integrate EHS into broader business conversations to ensure the latest safety developments and issues are top of mind for both employees and external stakeholders. Examples of how we communicate internally and externally about EHS include:

- **Direct Connections:** These company-wide meetings serve as venues for reflection on the state of our overall business and help us check that our current operations and initiatives are in alignment with our seven core values.
- **Safety Huddle Meetings:** These routine small group meetings serve as opportunities to share best practices and update team members on new safety and environmental matters. Safety Huddle Meetings also provide a forum to respond efficiently to any internal concerns from the team. These interactions foster the trust and transparency we strive to promote across all our locations as well as provide our employees with the personal attention they deserve.

- **USG Connections (Intranet):** We make a wide range of EHS information available to our employees through internal digital channels to ensure they have the resources needed to perform their best and are engaged with the business.
- **Incident Reports:** We internally publish the results of incident investigations as an opportunity to share lessons learned. Additionally, we share these, on a selective basis, outside our organization as well. Reports are posted to our intranet site and shared with employees during routine safety huddle meetings.
- **Create Blog and Build It Blogs:** These two customer-focused digital forums provide thought leadership in the areas of sustainability and environmental compliance, covering topics like LEED, green projects and design and alternative sources of energy. The Build It Blog caters to an audience of contractors and installers, while the Create Blog serves architects and designers.
- **Marlin:** This system allows us to push communications from both a corporate and site level to information screens throughout our operations. We highlight safety, environmental and sustainability achievements here.
- **Yammer Social Network:** We use digital channels, like Yammer, to encourage employee enthusiasm and engagement through the sharing of knowledge, best practices, success stories and photos of great events. Similar to Facebook for the workplace, Yammer allows employees to post about what matters to them and how they're inspired to do their job every day, and colleagues can join that conversation.

As a leader in our industry, it is our duty to share our latest safety and sustainability findings externally to set an example for others in our field. EHS matters affect us all and require a unified effort, within and across organizations, to drive meaningful change. We share our lessons and best practices with our peers and participate in benchmarking activities with outside organizations in the following ways:

- **The Campbell Institute:** Through our participation in the Campbell Institute, we share our best practices and learn from other leading organizations regarding best-in-class EHS practices. We will host the Institute's first-ever Benchmarking Conference at our Corporate Innovation Center in Libertyville, Illinois this June, which is just one of the ways we are actively involved.
- **Industry Involvement:** We actively participate in other industry groups, including Gypsum Association, North American Insulation Manufacturers Association and the National Association of Manufacturers, to share our best practices and learn from peers. Additionally, in order to advance environmental and safety across our industry, we share knowledge with our competitors and key stakeholders regarding gypsum recycling efforts and gypsum trace metal monitoring and standards.
- **Customer Involvement:** We present new methods to evaluate the safety of gypsum wallboard during its installation as part of our Product Stewardship and provide the detailed methodology to the industry in the spirit of sharing best practices related to safety.

One example that captures our commitment to communicating our sustainability best practices with both our customers and the manufacturing industry is our involvement in developing a sustainable closed-loop wallboard recycling model, as described in a recent article for *Walls & Ceilings* magazine (*Appendix 11*). More information about this program is in SECTION 6: LINKAGE BETWEEN EHS AND BUSINESS PERFORMANCE.

## Audits and Continuous Improvement

Continuous improvement is a key tenet of our safety-first culture, and auditing plays a critical role in ensuring our people, customers and the communities in which we operate are safe and sustainable. To perform thorough and consistent assessments of our complex operations, we use a variety of audits covering safety, energy, environment and sustainability.

**Safety Audits:** Our SAR program, mentioned in SECTION 2 LEADERSHIP, is a universal auditing system for all of our locations around the world. An example of a SAR report can be found in *Appendix 12*. SARs include both peer-to-peer and internal audits which are alternated every other year in order to provide a holistic view of safety in our organization from both an internal and external standpoint. The mission of the SAR is to foster incremental safety improvements through an efficient internal process whereby any USG facility will be able to evaluate its own safety and health program, activities and practices to assure an effective and viable safety program and compliance with government regulations. Benefits of the SAR process include:

- **Operations Team Involvement:** Our operations team is actively involved in leading SAR audits and improving the overall program.
- **Line Responsibility:** SARs reinforce safety as a line responsibility through line personnel participation in the audit process. Safety is not based on a hierarchy or the efforts of any one individual at our plants. We believe that safety is everyone's job, not just that of the safety manager.
- **Shared Best Practices:** The auditing team often comes away with great ideas and tips for handling safety and non-safety related matters in their own plants, separate from the one audited. The SAR is an excellent mechanism to facilitate the sharing of best practices.
- **Tool for Retention:** The opportunity to participate in an SAR is an honor and serves as a retention tool. Our new professionals, engineers, supervisors and safety committee members, who have the opportunity to travel to other locations through the SAR program, expand their networks and develop new skills. In addition, teams are drawn from employees from multiple facilities, providing plant managers with an opportunity to meet available talent.

**Environmental Audits:** While we are taking great steps forward to expand the technologies and materials available to our customers, we take care to make our environmental footprint as small as possible. Our **Corporate Environmental Audit Program** aims to (1) verify compliance with applicable environmental legal requirements and internal company standards; and (2) take corrective and preventive actions to address any identified deficiencies. This comprehensive checklist consists of more than 70 pages of detailed requirements to ensure compliance.

The Corporate Environmental Audit Program mirrors many of the same tactics used in assessing our safety impact across the business and includes an **Environmental Audit Report**. An example of this review can be found in *Appendix 13*.

The scope of this audit program includes all manufacturing, quarry and mine operations owned or controlled in North America. Sites are audited every three to four years by environmental professionals who are independent of the site in order to ensure high quality and objective

results. These auditors are often corporate environmental services staff, environmental coordinators from other sites or consultants.

Our Mexican operations implement similar audits, which are primarily conducted by third parties rather than internal participants. While we have found success with our environmental efforts outside the U.S., as evidenced by the Certificado de Industria Limpia award given to USG Mexico (*Appendix 14*), there is room for improvement. We are working towards enforcing a consistent environmental audit across our international facilities in order to make sure our sustainability focuses are internationally aligned.

In addition to data generated by environmental audits, we compile and review energy, waste and emissions on a yearly basis and report our findings every two years in our **Corporate Sustainability Report**.

**Combined Audits:** In addition to the SAR and Environmental Audit Program, we also evaluate our performance through **USG Production System Capability Improvement Guides** (*Appendix 15*). Plant managers are responsible for filling out the guides on an annual basis, which evaluates the status of environmental, safety and sustainability-related initiatives for each individual plant. The guides provide our environmental, safety and sustainability teams with a comprehensive view across all of our locations, helping to identify patterns, address plants that require more attention and recognize plants that are going above and beyond our standards. Scores are organized in a red, yellow, green and best-in-class format. Each year, locations are encouraged to track the number of positive color changes in the spirit of continuous improvement.

## Hazard Recognition and Risk Management

Working with powerful tools and complex materials means that our jobs can involve risks. Our first employees were well aware of this when they descended deep below the Earth's surface, mining for gypsum. Management and miners had to quickly evaluate potential dangers and take appropriate actions. This spirit of collaboration remains true today.

Documenting and identifying risk to employees and the environment is something we take very seriously. In addition to our quarry and mining operations, risks and hazards exist in any part of our company, from research and development to engineering, manufacturing, transporting goods, installation and maintenance. We must always be on top of our game. The following systems ensure we assess all situations with efficiency and accuracy:

- **Job Safety Analyses (JSAs):** We document safe work procedures in the form of visual work instructions (VWIs), also known as picture-based Job Safety Analyses (JSAs), and use these for training and operator evaluations. Through this visual approach, we clearly illustrate how employees can perform their work using the safest and best practices. As part of the creation of VWIs, plant locations complete a formal risk assessment of a task, such as using a stationary ladder, which allows us to categorize the level of danger involved in executing the task and what methods of hazard mitigation, such as specialized training, personal protective equipment or administrative procedures are appropriate. An example of this form is in *Appendix 16*.
- **SAR:** SARs, mentioned in the previous section, also help us identify potential risks, as teams of employees from different operations review safeguards, conditions and



behaviors with a fresh set of eyes to further pinpoint risks throughout various processes and recommend methods of mitigation.

- **Environmental Audit Program:** As mentioned in the previous section, the Environmental Audit Program consists of both self-audit and in-person audit requirements. The findings from the audits lead toward improved environmental performance at all of our plants.
- **Compliance Management System (CMS):** Through our digital database, we internally report environmental incidents and manage corrective/preventive actions. We provide CMS access to each site's environmental coordinator and plant manager and encourage them to use the system to track incidents. We also document, track and assign internal environmental audit corrective actions through the CMS.
- **CORE:** As previously mentioned, safety incidents and audit findings are reported through this web-based system allowing us to monitor the results of investigation and the implementation of corrective and preventative actions.
- **Materials Safety Assessment Review (MSAR):** When new raw materials are introduced into our manufacturing plants and into our products, we identify, communicate and document the new risks and hazards associated with the raw material through a formal change management process, outlined in the MSAR process flow (*Appendix 17*). More information on the MSAR process follows in SECTION 3: MANAGEMENT OF CHANGE.

In addition, our Industrial Hygiene Sampling program is one of the cornerstones of our hazard recognition and risk management system, as well as a clear illustration of the way we surpass regulatory standards. We routinely sample the atmosphere in which our employees work for noise, airborne and contact contaminants. We compare our findings to our internal industrial hygiene standards, which are far stricter than governmental regulation – half of the lower of the OSHA or ACIGH permissible exposure limit/threshold limit value. Our schedule for these tests is in (*Appendix 18*). We then address outstanding issues necessary to create a safe and hygienic work environment.

Our EHS management systems are fully integrated with enterprise risk management. We firmly believe that a comprehensive risk assessment process is in the best interests of our employees, investors, the communities in which we operate and other key stakeholders. This is why we routinely discuss the management of risk with our insurers and third party providers and why we include and review EHS matters in our annual enterprise risk assessment process.

## Prevention through Design and Engineering

Our manufacturing facilities are designed with safety and the environment in mind, guided by our Lean Six Sigma and Advanced Manufacturing programs.

Lean and Six Sigma (LSS) are tools we equip our employees with to address challenges in their day-to-day work and to improve processes. As of 2016, we provided LSS Belt training for 5,011 employees, including:

- **22** master black belts
- **50** black belts
- **189** green belts
- **4,750** yellow belts

We are intensely focused on automating our labor-intensive and higher-risk tasks to create jobs that engage our workers and tap into their creativity and problem solving skills. Some of our standout policies include the following:

- We require ergonomically-friendly positioning of all our operator stations, reducing strain and improving employee health.
- We optimize designs to reduce or eliminate potential stresses and strains from material handling operations through automation and mechanized lifting aids.
- We use state-of-the-art machine guarding systems with positive verification and include pressure pads, light curtains, and sensor-verified guarding enclosures (where possible).
- We minimize our consumption of resources and cut down on product weight through the use of precision raw material feed systems that are used to control high performance additives.
- We maintain plant ventilation systems that exceed code requirements in order to ensure air quality.
- We have smart integrated control systems for our production lines.

Prevention through design and engineering expands beyond our facilities to our products and customers. We have **obtained nearly 2,000 patents** for products and technologies that changed the construction industry and these new inventions require rigorous testing to ensure safety and high-quality performance before going to market.

At our Corporate Innovation Center (CIC) in Libertyville, Illinois, we perform fire, acoustical, structural and environmental testing to ensure the excellence of everything we develop. This rigorous process allows us to provide customers with solutions that are stronger, lighter and easier to use, as well as safer and more environmentally sustainable.

We also create products at the CIC that use fewer materials and are safer for our customers, as evident in the development of our Sheetrock® Brand UltraLight Gypsum Panels. A video about the UltraLight Gypsum Panels is in *Appendix 19* and product highlights are as follows:



## Operational EHS Programs

Our EHS programs set standards recognized by the industry as the benchmarks of safe and sustainable performance. Our company has never been one to rest on past laurels. With the same sense of determination that inspired our founders to think smarter, work harder and go beyond convention to invent gypsum wallboard, today we operate far beyond compliance.

We have a comprehensive contractor safety program in place and require our contractors to operate at our strict standards. Contractors are prequalified, fully indoctrinated and closely monitored through the duration of their assignment.

It's never been enough for us to settle for the minimum requirement in anything we do, and that is why we have been recognized by external audiences for our EHS programs as highlighted in SECTION 2 LEADERSHIP.

Some of our 2015 calendar year successes include:

- **94 percent** of our locations operated **without a lost-time injury**
- **80 percent** operated over **1,000 days without a lost-time injury**
- **Two facilities** have worked more than **9,000,000 hours without a lost-time injury**

## Management of Change

Materials used in our operations are assessed for the safety of our employees, facilities, customers, and the environment through a defined management of change process. The process assesses the environmental and safety impacts and documents any changes in product formulation, manufacturing methods or other safety and quality assurance protocols before the changes are implemented in our operations. We also review potential environmental and safety impacts associated with all capital projects.

The cornerstone of our management of change program is our **Materials Safety Assessment Review (MSAR)**, which manages material changes from an EHS perspective. When new raw materials are introduced into our manufacturing plants and into our products, we identify, communicate and document the new risks and hazards. Our vendors must provide full disclosure of product ingredients and the review of these products against the Chemicals of Concern lists in order to do business with us.

Under MSAR, approval is required prior to the use of any new material at any manufacturing location and/or its evaluation in product formulations. Approval is also needed for all process chemicals – materials that are stored and used at a given location, but not added to finished products (e.g. cleaning and maintenance supplies). Separate approvals are required for each location in which the material will be stored and/or used.

Once submitted, a request is analyzed in the system and approved based on the established EHS criteria. If it needs to be evaluated further, it is routed to the proper EHS personnel for a safety assessment, which includes occupational safety, risk management, environmental, quality and product safety. The requestor and plant manager will receive email notifications once the request has been approved or declined.

The material's specifications, composition, intended use and storage are documented in our master information system. Additionally, denials, approvals and required handling and use consideration are also captured. Recommendations from assessors are distributed to sites prior to the use of any new materials. We never authorize materials for use or purchase at our facilities that are shown to have a detrimental effect on the safety of our employees, consumers or the environment.

In order to manage quality assurance and quality control of materials identified for use, we subscribe to **ACTIO, a SAS-based computer system** that provides automated routing and decision support capabilities to ensure raw materials have been fully evaluated before we make a decision on whether or not to use them.

We ensure that employees, contractors and others who may be affected by a material change are kept informed through our general safety communications channels, as well as provided with specific training. Employees must be fully qualified to use a new material before coming in contact with it. ACTIO streamlines this authorization process for raw materials, automating approval/denial communications to all interested parties.

Shared knowledge is the key to performing our jobs with respect to our colleagues and for the natural environment. In making the results of our material safety assessment reviews accessible to all locations, we clearly communicate material use history and best handling practices.

## **Workforce Empowerment, Involvement and Motivation**

Our CEO, Jim Metcalf, began his career with our company as a sales trainee and worked his way to the top of our organization. Jim's experience formed his belief that leadership can come from any level of the company, which holds true for our EHS practices. Employees lead our safety committees, conduct safety audits of our facilities and develop their own safe work procedures – everyone plays a critical role.

Our employees are empowered to participate in EHS in many different ways. The list below summarizes some of the most common ways in which employees get involved:

- **Reviewing or creating VWIs/JSAs**
- **Submitting safety suggestions**
- **Involvement in safety teams**
- **Presenting safety huddles**
- **Participating in incident investigations**
- **Participating in internal and external SARs**
- **Submitting safety articles for the plant newsletters**
- **Completing web-based safety training**
- **Reporting unsafe acts or conditions**
- **Completing risk analyses**

While we make every effort to safeguard against incidents or injuries, we stress the importance of immediately reporting incidents or injuries to supervision, no matter how minor. This helps to prevent more serious injuries or incidents through implementation of corrective and preventative actions.

Employees' adherence to our safety policies are reflected in their performance reviews and we recognize those who proactively contribute to safety-related efforts.

## Training, Competency Building and Succession Planning

We make it our mission to ensure each and every one of our employees is equipped with the knowledge and understanding to meet challenges head-on. To verify that our employees have reached a thorough understanding of EHS practices, we evaluate competencies through the following methods:

- **Safety Observation Checks:** This is a process where employee teams observe coworkers performing their job task and measure their adherence to established procedures and whether procedures accurately describe the safest and most efficient work method.
- **Manufacturing Operator Rate Program:** This system defines the job skills required to advance within our organization. In this system, also known as “pay for knowledge,” employees are continuously trained in a variety of job tasks and mastery is recognized through increasing operator rate promotions which translate into higher pay. Employees in our organization rotate through the jobs in which they are trained in order to maintain proficiency. Regardless of their work assignment, employees are always paid at the highest rate in which they are qualified. This system provides operational flexibility, given the ability of our staff to perform diverse work assignments and allows us to manage through organizational change resulting from promotions or exits.
- **Quizzes and Online Training:** We measure employee understanding of training through electronic and written quizzes. Our online training programs include interactions designed to engage employees and quizzes designed to measure understanding.

In addition to these measures, employees receive extensive on-the-job training from management and supervision covering our Accident Prevention Program which emphasizes the importance of seven preventative measures:

1. Housekeeping
2. Daily safety contacts
3. Safety meetings
4. Visual work instructions
5. Safety observations
6. Safety inspections
7. Employee involvement

Depending on job responsibilities, employees also receive additional safety training on a variety of topics such as first aid, lock-out/tag out, hazard communication and back safety.

Strengthening these core competencies among our workforce paves the way for smooth succession planning down the road. Our operator rate program rewards employees for skill acquisitions, which creates operational flexibility and allows us to ensure the right mix of talent is always readily available.

## Impact of EHS On and Off the Job

We promote the safety and health of our employees inside and outside of our facilities, around the clock. It goes back to the early days of our company towns when employees lived and worked together.

We regularly discuss off-the-job safety and the impact of non-work related injuries and illness, and put action behind our words. In the 1980s, we implemented a medical monitoring program covering all of our manufacturing employees. The program includes job exposure and optional screenings to promote early detection of acute and chronic conditions. Mobile vans deliver these services onsite to all of our U.S. plants. However, our facilities in Mexico and Canada handle this process differently from location to location. Some feature an onsite doctor while others provide care through a local provider.

In 2008, we began offering 100 percent coverage for preventive care services. In addition, our wellness coverage includes vaccinations, complimentary online health assessments, individualized coaching, and tobacco cessation and disease management programs.

Through our Comprehensive Employee Assistance Program, we give employees the tools to take control of their own physical, mental and emotional health. Several other programs sponsored at various locations include weight loss challenges, vending machine fit picks and nutritional displays, subsidized fitness club memberships and onsite fitness facilities at selected locations.

In addition, the Wellness Challenge is one example of the comprehensive health programming we provide. Highlights of the Wellness Challenge include:

- Our teams **lost more than 1,000 pounds collectively** over the past three years
- We offer tips for meditation, workplace ergonomics, proper posture and more
- Health experts, including chiropractors and nutritionists, offer free seminars for employees

We created recreational spaces on our properties at our Fort Dodge, Iowa, plant, an employee walking path at our facility in Bridgeport, Alabama, and community gardens at our Cartersville, Georgia, and Stockton, California, locations (*Appendix 20*). The produce we harvest from the garden is not only delicious, but it goes to a good cause. We donate all of the fruits and vegetables to local homeless shelters and food pantries.

We are committed to our employees and are concerned about their financial wellbeing beyond their working years. For this reason, we offer not only a company-matched 401(k) plan but also a company-sponsored pension. We believe the pension plan is a key element of our employment strategy to retain the talent needed to be successful.

Even through the toughest of times, we maintained our employee pension benefit, which has allowed us to preserve deep technical expertise and maintain strong customer relationships that enabled the launch of our UltraLight family of products and other innovations like High Performance Ceilings and Securock® ExoAir® 430 system.

True to our philosophy of continuous improvement, however, we know we can still do even more to provide resources and care for our employees outside of work, in the same spirit of our historically close-knit company towns. In 2016, we extended to employees and their driving-age dependents access to an online defensive driver training program in conjunction with the National Safety Council's Distracted Driving Awareness Month.

## SECTION 4: PERFORMANCE MEASUREMENT AND INFORMATION MANAGEMENT

### Systematic Use of Key Leading and Lagging Indicators

Monitoring leading and lagging indicators on a regular basis allows us to assess our EHS program from a broader perspective. We can get ahead of troublesome patterns that could be predictive of problems down the road and prioritize issues.

Due to the deeply intertwined nature of so many of our corporate and EHS goals, many of the leading and lagging indicators we use serve a double purpose, providing information to take action from both a corporate and a EHS standpoint.

We evaluate lagging indicators on an ongoing basis, including:

- Traditional OSHA incident metrics
- Plant environmental compliance summary reports
- Compliance reporting
- Healthy Products Evaluations—Chemicals of Concern List, Green Chemistry Focus
- Greenguard VOC Emissions Reporting
- OSHA GHS Leadership
- LCA and EPD's – ISO14040

We track a number of leading indicators and are working to further formalize these metrics. The concept of leading indicators is not new to us.

- Many years ago, we correlated work hours in excess of 56 in a given week to an increased likelihood of injury. For this reason, we implemented a 56 hour rule across our operations.
- Similarly, we found that operations in which employees are actively engaged in supporting the location's safety program have lower instances of injuries. In 2011, we revised our safety incentive program to be primarily activity based. The greater the level of involvement over the course of a quarter, the higher an individual's incentive payout.
- We recognized that upset conditions are a leading cause of injury. We've focused our efforts on improving operational efficiency to minimize this exposure. In addition, we've implemented a "take five" risk assessment program which is utilized in the case of any non-routine task (*Appendix 21*).
- We have focused on improving the caliber of our workforce and began pre-employment drug testing in 1984. We expanded to include post-incident and random testing in the following decade. We implemented comprehensive skills testing, formalized background checks, behavioral based interviewing and team hiring in the 1980s.
- We emphasized near-miss reporting for years, recognizing that these incidents provide us an invaluable opportunity to develop corrective and preventative actions to keep our employees from injury.
- We know that an employee's life outside of work influences his or her safety success at work. We had a home and family safety program in place for many years and our medical monitoring efforts have focused on early detection.

These are all in addition to our SAR program, which has been and still is one of our primary predictors of safety success.

Last year, we formalized these and a number of other similar factors into a leading indicator self-assessment checklist. This checklist was rolled out to our plants and is a tool we ask them to measure themselves against on a quarterly basis (*Appendix 22*).

We formally evaluate the following leading indicators:

- **Model program audits**
- **USG Production System Capability Guides**
- **Plant environmental audits**
- **Safety Activity Ratings**

We make our leading and lagging data accessible to individual sites, businesses and disciplines on a regular basis, so that all our employees can share knowledge and learn from one another. The formalization of leading indicator metrics is an area that we continue to strive to advance, as we believe this holds huge promise to the continued improvement of our EHS outcomes.

## **Measurement Quality and Data Collection**

To maintain consistent incident investigations and analysis, we track our safety incidents and audits through a web-based tool called CORE, which is produced by ProcessMAP. CORE allows us to monitor compliance with policies and programs and measure our safety results across geographical locations and lines of business. It also allows us to pinpoint areas that require more attention, implement preventative measures, and recognize areas with exceptional performance.

A key element of our CORE system involves its use for reporting of “near-misses.” Our philosophy is that we should do all we can to take preventative action before a safety incident results in an injury. We encourage employees to report “near-misses” in order to fine-tune our safety programs and procedures and avoid injuries.

We use a similar web-based management system to compile and track environmental incidents and audits through a tool called the Compliance Management System (CMS), which is produced by ERM. Through CMS, we are able to manage corrective actions associated with findings and observations from environmental audits. The sustainability and energy teams use this data to create documentation illustrating our performance against goals.

Both CORE and CMS provide us with an organized way to track and analyze incidents and the outcomes of our audits, compiling results and key findings and organizing them in a way that allows for sharing. In addition to these digital databases, we maintain a running summary of all product complaints from our product safety hotline that are compiled in our data system on a quarterly basis.



## Data Analysis and Evaluation

Our internal EHS standards require immediate and detailed reports of all health and safety incidents. To promote understanding of the importance of this practice and to enforce this policy throughout the company, all of our workers are trained on incident reporting.

Key statistics related to our safety audits and incidents managed within CORE are summarized in a dashboard which can be reviewed at a site, division or corporate level. This visibility allows for early identification of emerging trends and empowers individuals at all levels of our organization to play a part in favorably influencing our results. An example of a dashboard can be found in *Appendix 23*.

We report on our safety data at least once a month. Likewise, environmental compliance performance and product safety hotline information is updated at least quarterly and reported to leaders in the areas of operations, legal and safety. This routine reporting gives our leaders an opportunity to assess their EHS performance in relation to similar facilities.

Clear communication is one of our priorities, and through CORE and CMS, we ensure that employees are able to view safety and environmental data at a company-wide and location-specific level. This assists our plant managers in calling attention to specific trends and performance issues. In addition, all locations have access to ACTIO, which allows them to view the status of MSARs. Lastly, we distribute safety results every month through employee emails, our intranet and Marlin digital signage in plants.

## Comparability

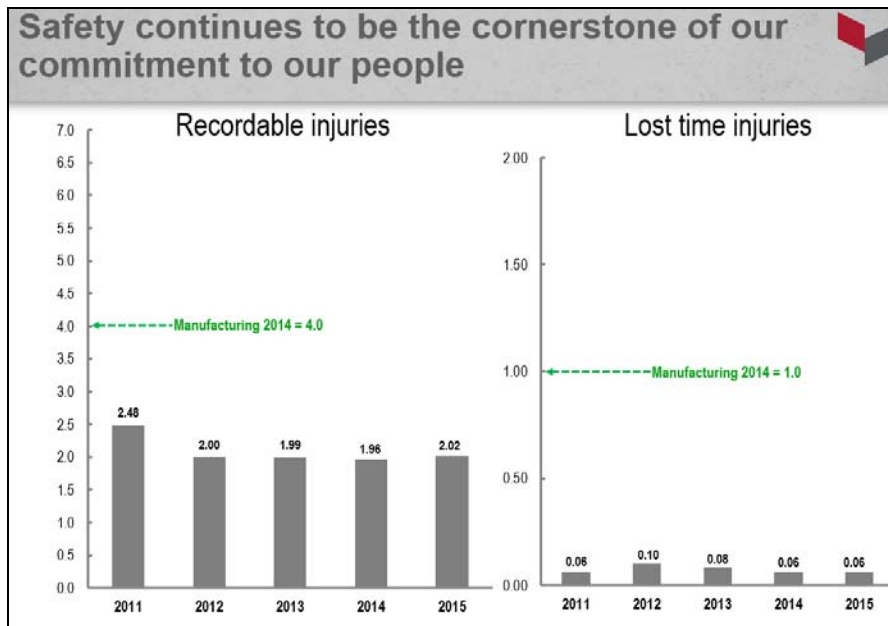
We compare our safety results to our peers on a monthly basis for all of the industries in which we operate. These specific industries are outlined in SECTION 1: BUSINESS PROFILE. Our safety results continue to be better than the lowest benchmarks, a point of pride for our company.

We do not actively compare our environmental results to our industry peers, but rather work towards \$0 in environmental compliance financial penalties. During the last five years, our penalties were significantly below industry averages.

# SECTION 5: EHS RESULTS

## Safety Results

When it comes to health and safety in our industry, we operate **six to 17 times better than industry norms**. In 2015, 22 of our locations (35 percent) operated without a recordable injury, 39 locations (62 percent) operated without a restricted-duty injury and 59 locations (94 percent) operated without a lost-time injury. In terms of timing, 34 locations (53 percent) operated over 1,000,000 hours without a lost-time injury and 51 locations (80 percent) operated over 1,000 days without a lost-time injury.



We are proud to have achieved low injury rates through our training, prevention and audit programs, and have maintained this low level of recordable and lost-time injuries at a consistent rate over the past five years, as shown below.

Many of our plants have gone years without taking an employee to the doctor for a work-related injury, with our current record being eight years for our Surrey and Port Kells, Canada, plants. Additionally, two of our facilities have worked more than 9,000,000 hours without a lost-time injury and two facilities have gone more than 9,000 days without a lost-time injury. Our Galena Park facility currently holds the gypsum industry record.

## Environmental Results

It is our top priority to develop some of the most forward-thinking, environmentally-friendly building products that incorporate recycled waste content, emit no or low levels of volatile organic compounds (VOCs), use minimal packaging and perform throughout a building's lifespan with minimal routine maintenance required.

We are founding members of the U.S. Green Building Council. When it comes to staying current with regulation, we take every effort to go above and beyond what is required for our industry.

Results for our key environmental focus areas, including air quality, energy consumption, resource utilization, green design and water conservation are as follows:

### Air Quality:

Our plants have operated with environmental control equipment since before the first Clean Air Act was passed in 1970. We spent millions of dollars to install air-cleaning equipment, enabling our plants to meet air-quality standards. In addition, more than 200 of our products are certified GREENGUARD Gold low-emitting products.

**Energy:**

We power our various operations with clean-burning natural gas and work to ensure that we leave as little of an energy footprint as possible. We have cut our total energy usage by more than 11 percent since 2008 and we also reduced the amount of energy required to produce our products by more than 30 percent in the past 30 years.

During the past year, we further reduced our energy use by making improvements to product design and streamlining the production process of our building materials, as detailed in *Appendix 24*. One example of how we achieved this operational success is through the installation of two eight-acre, one-megawatt solar fields at our plant in Plaster City, California. Combined, the solar fields generate two megawatts of power, which account for approximately 20 percent of the plant's electricity consumption and represent enough energy to power 2,000 typical homes. In addition to supplying our plants with renewable, green energy, we anticipate this initiative will reduce electricity costs by over \$2 million. We are in the process of evaluating similar opportunities with solar and other forms of alternative energy at other plant locations. We either are or have evaluated the potential use of wind turbines, fuel cells, and solar/thermal.

Additionally, our paper mills in Oakfield, New York, and Otsego, Michigan, both utilize Combined Heat Power (CHP) technology through the use of natural gas fired turbines which generate electricity. The waste heat from the turbines is then used to produce steam. This is a highly efficient use of energy and we continually look for the opportunity to utilize this technology at other plants.

Each year, our energy department audits a group of plants to identify potential areas of opportunity for energy reduction as well as to benchmark plants against similar company operations. We also work to impact local, state and federal energy policy. We actively participate and take leadership positions in several groups that advocate for the interest of large industrial users of energy before federal and state regulatory commissions.

**Resource Utilization:**

Our core product, gypsum wallboard, is one of the U.S.'s top consumers of secondary fiber (waste paper) using approximately 650,000 tons each year to manufacture wallboard and ceiling products. We converted USG Sheetrock® panels to 100 percent recycled paper in 1945 and have used 100 percent recycled face and back papers in all gypsum panels since the early 1960s.

**Green Design:**

We implemented green into our product design long before industry standards were conceived. It was the right thing to do and it was good for our business. Many of the products that leave the smallest environmental footprint are those that propel us forward as a company today. Our recent milestones include:

- **2010:** Developed the award-winning USG Sheetrock® Brand UltraLight Panels, which uses fewer raw materials and have a lower carbon footprint while retaining their high performance properties.
- **2013:** Led a breakthrough in cement technology with the launch of USG Durock® EcoCap™ Self-Leveling Underlayment. The use of coal combustion by-products helps to reduce greenhouse gas emissions by more than 50 percent, embodied

energy by more than 45 percent, and water consumption by up to 50 percent compared to other high alumina cement floor toppings.

**Water Conservation:**

Water is a key ingredient in a large number of our manufacturing processes, and making sure we keep the water as clean as possible for our surrounding communities is of great importance to us. Our paper mills and wet felted ceiling tile lines recycle wastewater produced during the manufacturing process.

## Continuous Improvement Process

We are always looking to better our year-over-year performance. Our audit processes—SAR, MSARs, Safety and Sustainability USG Production Guides—are designed with the philosophy of continuous improvement in mind.

While we're proud of our history as environmental, health and safety leaders, revolutionary innovators and trusted employers, we view our past achievements as motivation to keep refining our policies, testing our procedures and materials, and pushing to make our employees, customers, communities and the environment a safer and healthier place to live.

## SECTION 6 LINKAGE BETWEEN EHS AND BUSINESS PERFORMANCE

### Integration of EHS and Business

Sound EHS programs translate into better operational efficiencies and a higher quality of products and services that we can deliver to our customers. From the beginning, we have always believed that safety is the well head from which all other operating disciplines flow.

Today, EHS continues to play a critical role in our overall business strategy, called *Our Plan to Win*. Centered around 1) strengthening our core business; 2) diversifying our earnings; and 3) differentiating through innovation, *Our Plan to Win* drives our company's success. However, this success would not be possible without our safety-first culture or commitment to continuous improvement.

### Added Value and Cost Reduction

To measure the value added of our EHS programs, we implemented the following tools to track and report on our progress:

- U.S. EPA Carbon Reporting Tool
- Thinkstep Gabi Life Cycle Assessment System
- 3E Safety Hotline—Customer Response Management Corporate Sustainability reports based on GRI Framework

In caring for our family of employees, we understand that safety is not only a best practice; it's good business. Our workers' compensation experience modification rate (EMR) falls well below industry averages each year. The EMR is a measure developed by insurance companies in order to calculate policy rates based on workers compensation claims. In 2014 alone, our low EMR saved us nearly \$8 million of direct cost on premiums and claims (*Appendix 25*).

## Continuous Performance Improvement

Continuous improvement is one of our key safety goals and is a major area of focus for all of our EHS programs. To continuously improve our performance, we partner with peers, customers and outside organizations to enhance our processes and policies. Our commitment to continuous improvement as a company-wide philosophy is evident in the following practices:

- Improving energy efficiency at plants
- Changing product formulations for lower VOC emissions
- Embracing green chemistry through safer alternative analysis
- Updating internal management systems
- Updating guidance documents
- Reducing water usage
- Reducing waste-to-landfill processes
- Architecture 2030 Commitment for Ceilings: This challenge aims to reduce the embodied GHG emissions of building products by the year 2030, by calling on companies to specify products manufactured with a carbon footprint of 30 percent below the product average through 2014. Manufacturers are challenged to continue to reduce their carbon footprints, incrementally reducing them by 50 percent of the baseline.
- Evaluating and implementing alternative energy solutions
- Heat recovery systems
- Tracking systems to verify compliance with local, federal and international requirements, as well as to exercise regulatory foresight

A prime example of our commitment to continuous improvement is participation in the Building Product Ecosystem (BPE) pilot. In May 2014, we collaborated with cross-industry stakeholders, including the Durst Organization, New School and the City University of New York (CUNY) for a gypsum recycling pilot program for New York City. Together, we created a functioning closed-loop model of wallboard recycling that can sustain itself into the future.

Closed-loop recycling of wallboard is rarely pursued due to the lack of incentives and mandates, and because the recyclability diminishes once moisture contamination, compaction and segregation from aggregation with other waste occurs. As such, during the installation of wallboard, there is significant waste created on the jobsite – wallboard cuts typically generate 10 to 12 percent of the waste in construction projects. Some of this waste will be reused for agriculture or site soil remediation purposes, and the vast majority of the waste ends up in landfills.

Through our collaborative effort, we revamped the urban construction waste management process to provide workers with the resources needed to efficiently recycle wallboard. The project was a success, with more than 1,000 tons of wallboard waste collected for recycling to date in New York City.

## Operational Performance through EHS

A key factor in the success of our EHS programs is our commitment to working safely: every minute, every task, every day, so that our employees and customers can live life to the fullest. As mentioned previously, superior safety results translate into better operational efficiencies and higher quality products and services.

Within USG, there's a common belief that EHS and sustainability go hand in hand. As such, we've developed a three prong system for EHS that enhances our operational performance to execute against our business responsibly and ensure the safety of our employees:

- **The Planet:** Environmental factors include minimizing the impacts to the air, water, land, people and other species that are part of the spaces where we live. New facilities are built and older facilities are redesigned to minimize emissions into the environment. Manufacturing and distribution processes are enhanced to reduce energy consumption, reduce greenhouse gas emissions and more efficiently use raw materials. All of this is done to protect the safety of each person in the workplace and the surrounding community.
- **Profit:** Economic factors include business efficiency, productivity and being profitable enough to successfully operate. Safety is fundamental to any operation surviving and thriving economically. Ensuring people go home in the same condition that they came to work is every employee's responsibility, especially the safety and health professional. Without making employees its first priority and putting processes in place for them to work safely, a business cannot be sustainable.
- **People:** Social factors include ensuring the safety and health of our employees and responsibly contributing to the future of the communities where we live and work. In addition, this includes the U.N. Sustainability Development Goals (SDGs). SDGs of eliminating hunger, ensuring good health and well-being, and reducing inequality among others. EHS professionals have a large impact in this area.

Overall, to achieve our operations' efficiency in EHS, we have developed a philosophy within our organization that safety is the cornerstone of sustainability. Without making safety a top priority and incorporating it in every practice, process and philosophy, we will not succeed.

## SECTION 7 LESSONS LEARNED AND PATH FORWARD

### Lessons Learned

We maintain a rigorous set of internal EHS requirements that will improve and promote key organizational learnings for employees. Safety is a cornerstone of everything that we do, and when it comes to running our business responsibly, the safety of our employees is our number one priority. It is important to us that we always stay apprised of the latest and greatest trends in safety.

We aspire to be an industry leader in health and safety by creating an injury-free workplace through modeling safe behaviors for our families, colleagues, customers and communities. Our commitment to working safely through each and every one of our tasks every minute of every day is critical within our organization so that we can live life to the fullest. Our safety and sustainability goals and initiatives have evolved to reflect the manufacturing industry and overall workplace changes over the years.

Much like the processes we use to create high quality gypsum wallboard products out of raw materials, we are constantly refining our operations and practices to set the bar higher, always checking our results against our basic tenets of safety culture. Some of the key learnings we gained as a result of this process are as follows:

- We must continually reevaluate formulations and manufacturing techniques to reduce plant emissions.
- Raw materials are always changing. Therefore, supplementary third party laboratory evaluation is essential to stay ahead of industry developments.
- We must continue to learn and improve our EHS procedures through our “Plan, Do, Check and Act” mentality.
- Leveraging third party capabilities helps improve efficiency and provide additional thought leadership. Examples include 3E SDS authoring, 3E global safety hotline, SME compliance experts and region specific remediation consultants.
- The success of our safety and sustainability policies is entirely determined by our employees. We take significant steps to attract and retain top talent through our selection process and background checks, and we foster an employee-driven EHS culture throughout the company through extensive training and communications.
- Consistency across our businesses is the key to moving forward and staying ahead of EHS developments. This is something we have taken steps to implement across our North American operations over the years, and something we strive to improve.

We are proud of our rich history of safe and sustainable practices and the progress we’ve made against our goals, but we also understand that the most meaningful impact of our efforts is establishing a strong EHS foundation for future generations. Providing safe water, safe air, safe working conditions and a sustainable environment for all is our main responsibility and all of our actions now will play a role in building a safe, sustainable world for years to come.

## Path Forward

We continue to maintain our strong track record of industry product, service and safety leadership that was established as our company's foundation. By embedding safety and sustainability into everything we do, we continue to operate more than six times better than safety norms and make significant progress towards our sustainability goals.

The rapid change occurring in the manufacturing industry due to the emergence of Advanced Manufacturing practices provides a prime opportunity to continue to refine our EHS goals and work towards a safer and more sustainable future. During the next four years, our three main focus areas will include the following:

- **Work to Achieve our 2020 Ecoblueprint™:** We are focused on achieving our goals to reduce our energy usage, water consumption, emissions and waste, and continue to develop more environmentally-friendly and sustainable products for our customers. The actions already taken at each of our locations to be more sustainable have had a profound effect on the rest of the company and the manufacturing industry, and we will continue to implement these practices throughout our operations.
- **Replicate Our EHS Best Practices Around the World:** While all of our locations around the world have internal and external measures in place to effectively regulate EHS matters, our U.S. operations continue to set the standard for clear and streamlined procedures that ensure consistency across the country. Moving forward, we will work to mirror our U.S. best practices at our Mexican and Canadian facilities, especially in regards to extending our safety culture outside plant walls to communities, homes and families of those we employ.
- **Incorporate Advanced Manufacturing Principles into our Operations:** Through the implementation of automation, lean practices, leadership development and advanced system controls, we strive to separate the worker from the work, elevate the sophistication of the jobs we offer—allowing us to attract new talent, and improve our overall safety and environmental performance.

With the strong EHS programs we have in place, firm commitment from our leadership and focus on continuous improvement, we are well positioned to continue to be an EHS leader for the next 115 years of our company.

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