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# Creating Sustainable Solutions to Help Make Better, Safer and Healthier Lives for People Everywhere

Submitted by:  
**DuPont**

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*The miracles of science™*

**DuPont Commitment to Zero –  
Creating Sustainable Solutions to Help  
Make Better, Safer and Healthier Lives  
For People Everywhere.**

**2013**

**Robert W. Campbell Award**

by E. I. DuPont de Nemours

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## EXECUTIVE SUMMARY

This is an exciting time for DuPont, with dynamic progress made in our commitment to create sustainable solutions the world needs through science and innovation. Our strategy is driven by the DuPont mission of sustainable growth, creating shareholder and societal value while reducing our environmental footprint along the value chains in which we operate. In this way we are embedding sustainability into the way we do business and considering the long term livelihood of people and the environment as we make business decisions today. This approach is working. Setting ambitious sustainability goals helps us advance our performance financially, safely and environmentally, and results in positive impacts up and down our value chains. Today we are proud to see excellent performance on many of our corporate sustainability goals. We are exceeding targets ahead of schedule in three of the four market-driven commitments including our investment in sustainability-focused research and development, the number of products that help make people safer and revenue from non-depletable resources. The momentum of this progress against our sustainability goals is strong and will continue, but there is more to be done. We are focused on addressing the key challenges of the future related to global population growth and looking for opportunities to innovate sustainable solutions. We have identified three specific global areas that come with a growing population: feeding the world, reducing dependence on fossil fuels and protecting people and the environment. At DuPont, in all our very diverse businesses, sustainability is a powerful engine of growth, and we recognize that we cannot do this alone. Our belief is that strategic inclusive innovation with customers, governments, NGOs, and key thought leaders will be necessary to provide enough healthy food for people everywhere, decrease dependence on fossil fuels, and protect people and the environment for generations to come. Our work remains grounded in the core values of safety and health, environmental stewardship, highest ethical behavior and respect for people. Consistent with these core values, while we have made progress, we recognize there is more to do. Science and innovation are about designing a better future, and DuPont is determined to continue on this journey through sustainable growth.

The recent evidence is clear. Our continuing integration of Safety, Health and Environmental into our operations continues to make a positive difference. 2012 was our best year ever with our total recordable injury rate improved 13 percent compared to 2011, and we had zero Category A environmental incidents. For the first quarter of 2013, our employee recordable rate is 38 percent better than the first quarter of 2012. At the same time, our financial performance continues to improve, even in the face of a difficult global economic environment. For the fourth quarter of 2012, we beat our guidance to Wall Street and delivered \$.11 earnings per share. For the full year, we achieved three percent revenue growth and we had a record year for new product introductions, exceeded our target for fixed cost productivity, and many businesses delivered strong performances in sales growth, earnings growth or margin expansion. For the first quarter of 2013, our earnings results met shareholders' expectations. Agriculture produced record revenue with an increase of 14 percent. Packaging & Industrial Polymers had top line growth of 5 percent and 61 percent operating earnings growth.

We will continue to focus on strengthening our core safety culture as it is the foundation for continued improvement and growth. Our most recent Safety Perception Survey results from September 2012 have allowed us to adjust our safety improvement roadmap. There was significant improvement in our relative culture strength since our last survey in 2010, and we expect to see the same trend continue with our next survey in 2014.

We are "committed to zero" incidents with respect to our core values and adhere to these values with the strongest resolve. We have been in continuous operation for over 211 years, demonstrating unparalleled business success and continuity. Guided by our core values, DuPont will continue to grow, drive innovation and penetrate fast-growing markets in rapidly developing economies. We will find sustainable, innovative, market-driven solutions for global challenges as we work to make lives better, safer, and healthier for people everywhere.



## SECTION I – BUSINESS PROFILE

### BUSINESS DESCRIPTION AND ORGANIZATION CHART

Founded in 1802, DuPont is a global research and technology-based science company, creating sustainable solutions to help make better, safer and healthier lives for people everywhere through our innovative products, materials and services. Our market-driven innovation introduces thousands of new products and patent applications every year, serving markets as diverse as agriculture, nutrition, electronics and communications, safety and protection, home and construction, transportation and apparel. DuPont falls under NAISC codes 325 (79 percent), 111 (19 percent), 5416 (2 percent) and ISIC codes 20 (79 percent), 0164 (19 percent) and 7490 (2 percent) and is submitting a global application.

Headquartered in Wilmington, Delaware for the last 211 years, DuPont has revenues exceeding \$38 billion with 70,000 employees operating in over 90 countries. We have seven major areas of focus – DuPont Agriculture; DuPont Electronics and Communications; DuPont Industrial Biosciences; DuPont Nutrition and Health; DuPont Performance Chemicals; DuPont Performance Materials; and DuPont Safety and Protection. An organization chart is represented in Appendix 1 – DuPont Annual Data Book.

DuPont is proud to build on its heritage by collaborating with others to tackle unprecedented challenges in food, energy and protection facing our world. With global population expected to approach nine billion by 2050, DuPont is working with customers, governments, NGOs and thought leaders to discover solutions to today's toughest challenges. Together, we believe we can provide enough healthy food for people everywhere, decrease dependence on fossil fuels, and protect people and the environment for generations to come.

Even as our company has grown and evolved, our commitment to our core values has never changed. We are “Committed to Zero” every day, in every task and in every action we take. Our core values are:

- **Safety and Health** - We adhere to the highest standards to ensure the safety and health of our employees, our customers and the people of the communities in which we operate.
- **Environmental Stewardship** - We protect the environment and strengthen our businesses by making environmental issues an integral part of all business activities. We continuously strive to align our actions with public expectations.
- **Highest Ethical Behavior** - We conduct our business affairs to the highest ethical standards and in compliance with all applicable laws. We work diligently to be a respected corporate citizen worldwide.
- **Respect for People** - We foster an environment in which every employee is treated with respect and dignity, and is recognized for his or her contributions to our business.

These core values are highly integrated, and we believe that strengthening one core value enhances the others.

Safety has always and will always be our first core value since the initial DuPont safety rules were written down in 1811 by our founder E. I. DuPont. The Safety, Health and Environmental (SHE) function has always been an integral part of the Company, but SHE is not the responsibility and accountability of the SHE function alone. Embedded in the DuPont safety principles is the belief that safety is a line management responsibility (*Appendix 2 – Standard S26G–DuPont Safety Principles*). The DuPont SHE functional organization serves as the conscience, the advisors and the metrics keepers of the organization. The figure on the next page (Safety, Health & Environmental Leadership Flow) illustrates how SHE starts at the Board level and flows down through the Operations organization and is supported by the SHE function. SHE strategy is developed by the SHE Excellence Center and integrates with Operations at the plant sites where the strategy is executed.



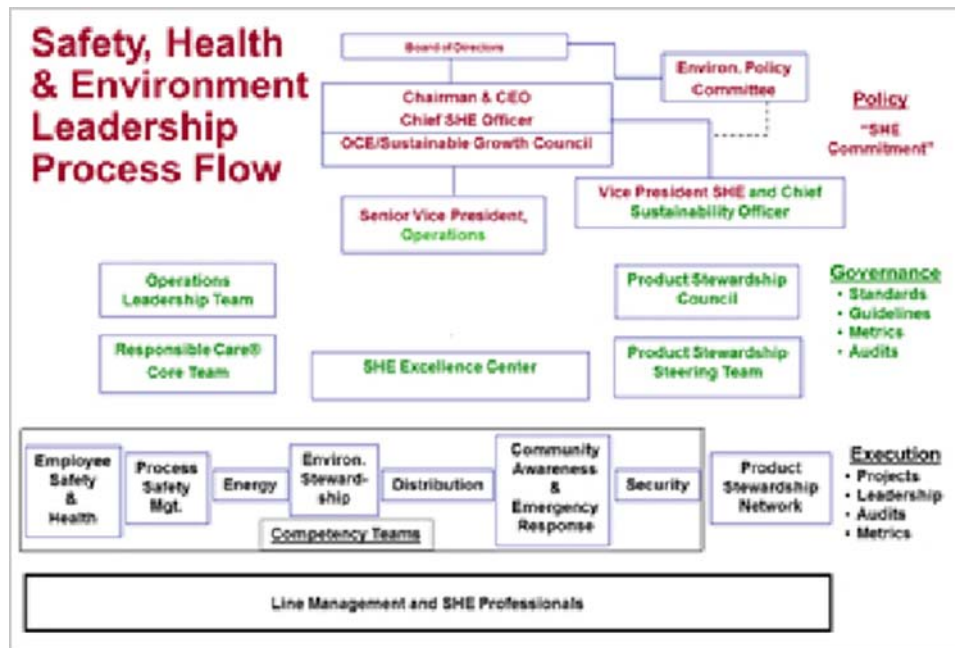


Figure 1

Throughout our history, DuPont has evolved in many ways; however, our SHE commitment has never wavered, even as we have found ways to adapt and achieve business success.

### SHE AND BUSINESS CHALLENGES

The greatest challenge and opportunity facing DuPont is the transition toward a focus on sustainable growth. During our 211 years, we have set the standard for occupational safety, environmental compliance and footprint reduction. Now we are challenged to integrate SHE into this new business model.



Figure 2



We believe that safety excellence, environmental protection, and footprint reduction have become market-driven **business fundamentals** throughout the global value chain. Working in partnership with others, we are building sustainability into our products and processes to give us a competitive advantage in the market. Sustainability is central to our Company's value proposition for the next century, impacting not only our business, but every customer and every consumer we touch globally.

DuPont was one of the first companies to establish market-facing sustainability goals and to track them publicly. For example, in the period from 2010 to 2011 we invested \$823 million in research and development for products that reduce environmental impacts, and we earned \$10 billion in revenue from products based on non-depletable resources. We have reduced greenhouse gas emissions by 8 percent and reduced water consumption by 9 percent (*Appendix 3 – 2012 Sustainability Progress Report*). Nearly all of our manufacturing sites around the world are ISO 14001 certified, and the few left are recent acquisitions in process of certification.

As world demand for sustainable products and manufacturing processes grows, DuPont believes that our Company can be a world leader in providing them. In this way our Company is integrating SHE as part of our global business strategy and as the key to our future growth.

## SECTION II – LEADERSHIP

At DuPont, our commitment to SHE starts with line management at the top of the organization. In the early 1990s, former CEO Ed Woolard chartered a discovery team to define a path to achieve sustainable improvement in safety while building business value. One of the major outcomes of this work was the development of the DuPont Bradley Curve (*Appendix 4 – Bradley Curve White Paper*). The Bradley Curve represents the cultural maturity model for an organization and helps it understand where it is and how to improve. The Bradley Curve along with the Relative Culture Strength Index has become the leading quantitative indicator of organizational culture and is used extensively inside and outside of DuPont. This cultural maturity model is based on three major domains – Leadership, Structure, and Processes & Actions (*Appendix 5 – DuPont's 12 Elements*). The cultural maturity journey begins with and sustains itself primarily with leadership.

### ORGANIZATIONAL LEADERSHIP

Over many years, DuPont has developed and formalized safety practices that have comprised the DuPont Safety Management System (*Appendix 5 – DuPont's 12 Elements*). These practices foster a culture that is centered on caring for people, driven by felt leadership, and delivers operational discipline.

DuPont subscribes to the concept of “Visible Felt Leadership” for all of our core values. What does this mean?

- A demanding, uncompromising and ever improving safety culture
- Where Expectations are clearly and universally understood, accepted and practiced
- Established and maintained by every leader in the organization
- And leadership engages employees in all aspects of driving core values

Felt leadership is critical to any organization because our leaders set the culture by their actions, inactions and the perceived expectations they have of the organization.



Felt Leadership is demonstrated in many ways by leaders at all levels. It is particularly important at the senior leadership level. CEO Ellen Kullman begins every meeting, including our quarterly financial report discussing DuPont's SHE and ethics performance. This message allows every employee to have an opportunity to discuss safety and core values to build awareness and educate in a non-threatening way. In 2011, Ellen personally presented the first E.I. DuPont Safety Award medal to employees at the James River Plant in Richmond, Virginia.

All DuPont senior leaders are actively engaged with employees such that their passion and commitment for SHE are felt throughout the organization. They participate in safety meetings and audits, as well as recognition events. For example, each business president and functional vice president has recently led their leadership teams in reviewing their most recent safety perception survey results and designing action plans to continue the strengthening of culture. Many of our top leaders also demonstrate their commitment outside of DuPont. Executive Vice President Mark Vergnano is on the Board of the National Safety Council and C. Bland Dickey represents DuPont with the Campbell Institute.

### COMMITMENT TO SHE GOALS

- In 2013, the Operating Committee of the Company in consultation with the Board of Directors decided to change our motto from the "Goal of Zero" to "Committed to Zero." This change reflects the company's drive towards an interdependent culture and continued leadership in SHE. "Committed to Zero" goes beyond the numbers and focuses everyone's attention on living each and every day committed to zero in everything we do whether at home or at work, from safety to respect for people. This reflects the Company's and leadership's desire to move solidly into the "Interdependent Stage" of the Bradley Curve, going beyond managing to a number.
- Each year a set of corporate directives are given and cascaded down in the organization. The first directive is around core values. In 2013 each leader is required to personally mentor new employees around the core values. It is an expectation of performance for every single leader. In addition to personal performance every leader is also accountable for the SHE performance of his or her organization and it is included in their performance and compensation reviews.
- In 2012, senior leadership was given a Safety Perception Survey. Results were used to develop and track a path forward so that leaders could move forward in their own cultural development, enabling them to be better role models for the rest of the organization.
- Standards, policies and training are required of all employees including leadership. An example of this is reflected in the driving standard. Everyone in the company is required to comply with our Global driving requirements. Leadership is expected to set the stage by completing their modules and training earlier than the rest of the organization.
- In 2012 DuPont initiated the SHE Coin Recognition Program, which is intended for line leaders. It is a simple mechanism for leaders to engage with the line to recognize SHE contributions of DuPont employees within their organizations.
- Each Corporate Officers meeting dedicates a half day on core values.
- Transparency is another important component of commitment. The Corporate SHE website includes all the metrics around safety and descriptions of the incidents for learning and is accessible by all employees.
- There is a set of Corporate Standards, policies and practices that are updated on a regular frequency and they start with our SHE policy, The DuPont Commitment (*Appendix 7 – Standard S2Z–DuPont's SHE Commitment*).

The external recognition that DuPont receives is an indicator that our values, commitment and actions by our leaders are making a difference. Several examples include:

- One of 50 "Most Admired Companies" in the world for 2011 by Fortune Magazine.
- One of 100 Best Corporate Citizens by Corporate Responsibility Magazine, moving up 73 spots to number 19.
- Ranked on the NASDAQ OMX CRD Global Sustainability Index, which is comprised of 100 companies that have taken a leadership role in disclosing their carbon footprint, energy usage, water consumption, employee safety and work force diversity.





## 2013 Robert W. Campbell Award

Submitted by E. I. DuPont de Nemours

- Honored by the American Chemistry Council (ACC) with five Responsible Care® Energy Efficiency Awards for DuPont's long-standing commitment to conserve energy and reduce greenhouse emissions.
- Received 2011 Hesburgh Award by Notre Dame University for exemplary ethical, social, environmental and governance practices.
- Ranked number 19 of 100 Best Corporate Citizens for 2011 by Corporate Responsibility magazine.
- Based on independent research by the CRF Institute, DuPont de Nemours South Africa has been certified as a Best Employer South Africa 2011/12, as a result of outstanding human resources policies and excellent working conditions.
- Ranked number 3 of "Best Employers in Argentina" issued by Apertura Magazine.
- Listed as 10th of 150 Best Places to Work by Exame Magazine (Brazilian Business Week).

This commitment forms the foundation of the organizational culture that exists within DuPont.

### ORGANIZATIONAL CULTURE/CLIMATE

At DuPont, understanding the organizational climate and culture is critical to improving and sustaining strong values around SHE. Every two years a safety perception survey is conducted across all 70,000 employees and contractors. This survey is broken down to the site level and used as a communication and discussion tool to have a conversation with all employees and contractors around safety. It also becomes the basis for developing the roadmap for improvement. The road map is reviewed at regular intervals to ensure all actions are being implemented in a timely fashion. Progress is captured in terms of changes in the relative culture strength and progression along the Bradley Curve.

An example of how the Bradley Curve is used to improve culture can be represented by our Legal function. In 2010, they had one of the lower relative culture strengths. VP & General Counsel Tom Saeger led the charge with his organization and two years later, Legal was the most improved organization in the Company.

Our central safety committee (e.g. the Responsible Care® Committee) and associated subcommittees have proved to be effective in carrying out company policy, disseminating information, and enlisting employees in the safety management effort, generating and sustaining interest in safety. They bring together cross-functional teams from all levels of the organization working hand in hand to improve safety.

The global corporate SHE website also provides information and links to various outside organizations such as NSC. It allows all employees and contractors to access standards, policies, principles, current stats (On-the Job, Off the Job, Contractor, Environmental Incidents and Near Misses), incidents descriptions, and more. There are also links to training databases and is an easy source of knowledge for all of our employees.

Contractors are included in all SHE programs. They work side by side with our employees and are expected to drive the same culture. There are clear expectations set for contractors, and for those that don't meet those standards, they are removed.

Organizational culture also impacts the surrounding communities in which we operate. Our employees live in those surrounding communities and expect the Company to be a part of their community.

### CITIZENSHIP

DuPont is an active part of the surrounding communities for our sites and locations. Employees are encouraged to participate in volunteer activities and are supported by management for their participation. Each year volunteers can be nominated for the Volunteer Award which provides grant funding to the non-profit organization supported by that employee. Employees are also encouraged to participate in organizations related to various Industry SHE organizations such as the National Safety Council. Other key community programs are:



- **Community Advisory Panels** - DuPont establishes Community Advisory Panels at many of our global operating sites to engage our neighbors in discussions about our activities and their concerns and needs. Members of the Panels do not work for DuPont, but may be regarded as representatives of the neighborhood.
- **Responsible Care® Management System** - DuPont was one of the first companies to adopt the American Chemistry Council's Responsible Care® Codes of Management Practices. Since the late 1980s, DuPont has led efforts to expand Responsible Care® to encompass advances such as security, public reporting of metrics, and management systems certification. Responsible Care® is a registered trademark of American Chemistry Council, Inc.
- **Health Advisory Board** - DuPont established a Health Advisory Board to provide strategic advice on health and health-related issues, and to support our efforts in approaching health and health-related issues in a manner that is well-informed, scientifically sound and ethical. The board members are internationally regarded leaders in health and medicine, representing a variety of backgrounds and affiliations. They give us a complete and impartial perspective.
- **UN Global Compact** - Since 2001, DuPont has committed to aligning our operations and strategies with the ten principles in the areas of human rights, labor, environment and anti-corruption as outlined by the UN Global Compact.

As part of its social media outreach to the community, DuPont engages in an ongoing two-way, real-time dialog with more than 30,000 citizens, policy makers and journalists through our presence on digital social networks such as Facebook, Twitter and YouTube.

At DuPont, Product Stewardship is the business process responsible for the management of a product throughout its existing life cycle focusing on the health, safety and environmental issues at each phase. Product Stewardship requires good communication along the product life cycle to assess the needs of all our stakeholders involved. This includes working with our customers to develop appropriate risk management measures and to address their emerging needs for the products and services we supply to them. These activities may include the development of safety data sheets and labels (indicating hazard and use information), training, facilitating product stewardship reviews and the publication of information such as Product Use, Storage and Handling (PUSH) bulletins.

The product life cycle begins at the start of the development stage and continues along the product trail from raw materials to ultimate fate (e.g., recycling, reuse, refurbish, or environmental impact) with suppliers, manufacturers, distributors, customers, and consumer impacts identified. DuPont employs country, regional and business product stewards that have the overall responsibility to manage product stewardship reviews, existing and emerging regulations, material registrations, manufacturing, distribution, packaging, and other requirements, as needed.

At DuPont there are internal policies, standards and procedures specific to product stewardship and regulatory requirements that help product stewards manage the products or services that they are responsible for. For example, there is a DuPont standard that defines the requirement to complete a product stewardship review for all products before commercialization and a procedure that serves as a guide to doing the review.

DuPont also participates in relevant trade and industry associations as the American Chemistry Council (ACC), the European Council of the Chemical Industry Federations (CEFIC) and the Japan Chemical Industry Association and works with other key stakeholders on the development of standards, and partners with governmental and non-governmental organizations (NGOs). We affirm to all our stakeholders, including our employees, customers, shareholders and the public, that we will conduct our business with respect and care for the environment. We will implement those strategies that build Sustainable Growth and achieve the benefit for all our stakeholders without compromising the ability of future generations to meet their needs.

Strong leadership commitment is the most important of our 12 elements for a strong management system. Integration of all the elements is required for success.



## SECTION III – INTEGRATED SHE MANAGEMENT SYSTEM

In DuPont, we say that safety is not something else that we do. Rather, safety is the way in which we get our work done. This approach or attitude has been part of our mindset since our founding over 211 years ago and remains with us today. Our business success is dependent on achieving SHE excellence.

### POLICIES, GOALS AND OBJECTIVES

Our primary SHE policy document is “The DuPont Commitment – Safety, Health and the Environment” (*Appendix 7 – Standard S2Z–DuPont’s SHE Commitment*) which states that:

“Through our Commitment to safety, health and environmental excellence, we affirm to all our stakeholders, including our employees, customers, shareholders, and the public, that we will work collaboratively to bring sustainable, market-driven and innovative solutions to solve some of the world’s biggest challenges, making lives better, safer, and healthier for people everywhere. We will implement those strategies that build successful businesses and achieve the greatest benefit for all our stakeholders with respect and care for the environment without compromising the ability of future generations.

We will continuously improve our practices and standards in light of advances in technology and new understandings in safety, health and environmental science. We will make consistent, measurable progress in implementing this Commitment throughout our worldwide operations and support Responsible Care® as a key program to achieve this Commitment.”

### ORGANIZATIONAL COMMUNICATIONS

Line management is responsible for communicating with the organization as well as assuring that communication channels for two-way interaction exist and are active. The principle we follow is to communicate about safety as part of the daily routine. While we do have dedicated safety meetings and interactions, safety is kept top of mind by integrating it into all business discourse. We even follow this practice with our interactions with customers. A secondary communication principle we attempt to follow is to make these interactions a conversation such that people engage with one another, sharing among themselves. Typical examples of these interactions would include:

- **Safety Contacts** - Each meeting or interaction that occurs begins with a brief core values contact, often related to safety. Typically, a recent safety related event (on or off-job) is shared with the intent of keeping safety top of mind. This moment can also be used to convey current SHE information. For example, even daily meetings within Finance, Legal, Sourcing, and Marketing must start with a core values contact.
- **Daily Job Line-Ups and Pre-Task Briefings** - These interactions help keep focus on the work and highlight the safety aspects of the work.
- **Town Hall Meetings** - This technique is often used to communicate core values performance and the state of the business. These gatherings begin by talking about safety. This behavior is modeled by CEO Ellen Kullman when she announces our quarterly earnings to the top leaders in DuPont. She begins by talking about our core values performance reminding all of the relationship between business performance and execution of our core values.
- **DuPont Intranet** - In the digital age, there is a significant amount of SHE information available through electronic media to employees. Our daily “Inside the Oval” communication leads with a safety reminder. There are also many sites available to employees to “pull” SHE information as they may need it. A Daily SHE message is posted on our intranet site and also distributed worldwide through email. (*Appendix 8 – SHE Website Landing Page*)
- **Visual Boards** - As part of our DuPont Production System (lean process), current safety performance, leading indicators, alerts and reminders along with production data are displayed prominently in the workplace. These boards are designed to be dynamic in nature and updated during each shift.



- **Line Walks** - Also part of the DuPont Production System, leaders will make time during each day to engage with the workforce to discuss issues. These interactions are also used to communicate and reinforce safety messages as well as surface new concerns.
- **One-Pagers** - A recently implemented communication tool that has proven very successful is a one page PowerPoint format report that details an incident or injury and is broadly distributed throughout the corporation alerting others to key SHE concerns or situations. This knowledge allows others to identify where this exposure may exist within their own operations. (*Appendix 9 – Sample One Page Injury Communication Tool*)

### AUDITS AND CONTINUOUS IMPROVEMENT

Auditing is fundamentally important to both business and SHE excellence. It provides leadership with actionable, current data on the current organizational climate. It also serves as a means to involve the entire organization and creates communication opportunities. While the balance of this subsection will focus on a “formal” process, it should be recognized that all leaders are expected to continuously audit each day. Any act or condition observed will still be addressed, just outside of the formal process. This is another example where safety is not something else that we do; it’s how we get our work done. Our auditing process involves first, second and third-party layers to assure appropriate rigor and oversight.

DuPont’s first-party audit standard (*Appendix 10 – Standard S11Y–First Party Audits*) provides requirements & guidance that outline a process for conducting a structured SHE audit of a facility’s SHE systems and SHE-related behaviors. The benefits of a robust first-party SHE auditing program include but are not limited to:

- A mechanism to gauge both the strengths and opportunities for improvement of the facility’s SHE management systems, thereby reducing the facility’s risk of noncompliance with applicable local regulatory and corporate standards. The focus of first-party SHE audits is compliance, injury and illness prevention, pollution prevention, and SHE management systems development.
- Improvement of skills, knowledge, and capabilities of the line organization that deals with SHE management systems.
- A mechanism to improve the SHE behaviors of an organization by reinforcing behaviors that are in line with the corporate commitment and providing constructive feedback on behaviors that are not.
- Enhancement of the second-party SHE audit process by identifying and correcting deficiencies on first-party audits.

The attributes of our effective first-party SHE auditing program include but are not limited to:

- Leadership that takes an active role in developing and implementing the SHE auditing program.
- Auditing that provides a systematic approach to audit compliance with applicable regulatory standards, corporate standards, and facility procedures.
- Training auditors to conduct SHE audits and to help ensure that an established process is in place to provide ongoing feedback and mentoring.
- Participation of the shop-floor personnel to strengthen the commitment to zero.

Audit findings are documented in a report and distributed per site requirements. While one of the primary purposes of auditing is to have meaningful discussions and interactions with employees, the data generated from the auditing process is used to generate metrics to evaluate the overall effectiveness of the site’s SHE management systems. Audit findings recorded in the audit report are tracked to closure. A typical practice is to periodically review the status of open finding in the site central safety committee or staff meetings.



SHE second-party audits (*Appendix 11 – Standard S2Y–Second Party Audits*) are led by independent auditors, typically from other sites, to provide an objective assessment. The benefits of this system include the following:

- Serves as a tool for an independent evaluation, which enables the sites/region to confirm adherence to Responsible Care®.
- Aids the competencies working closely with the region to coordinate their audit modules and avoid duplication of effort.
- Helps combine SHE audits for efficiency, especially for smaller and less complex sites.
- Uses qualified auditors or consultants in the most cost-effective manner.
- Enhances the capabilities of auditors, who gain skills, experience, and knowledge from auditor training and auditing of other sites.
- Promotes consistent auditing practices for preparing reports, categorizing findings and recommendations, managing records, and following up to expedite and enhance audit understanding and closure. Assesses the effectiveness of SHE first-party audits.

The SHE and Sustainable Growth Center, in conjunction with an independent contractor, ERM, annually evaluates and prepares a report on the status and accomplishments of the DuPont SHE second-party audit program and presents the report once a year to senior corporate leadership. The audit program quality assurance (QA) effort is designed to assess whether the SHE second-party audit program is being implemented by the regions in a way that is consistent with this standard. A QA review is performed for each region every three years, covering the following factors:

- Number of SHE audits scheduled and number of audits conducted
- Training and experience of auditors
- Timely delivery of SHE audit reports
- Quality of SHE audit reports
- Timely delivery of corrective action plans
- Quality of corrective action plans
- Timing and quality of SHE audit follow-up reports.

### **HAZARD RECOGNITION AND RISK RECOGNITION**

Management is responsible for implementing procedures to identify the risk and control the hazards associated with our processes (high & low hazard) to levels that are consistent with the DuPont Commitment to Safety, Health, and the Environment (*Appendix 11 – Standard S2Y–Second Party Audits*). Corporate Standard Appendix 12 – Standard S21A Part A details the procedures that are intended to protect personnel from serious injury and prevent significant environmental harm, property damage, and business losses in support of our safety principles. The task of Process Safety Management (PSM) implementation is complex because it crosses over many functional areas of a business' organization, including research and development (R&D), engineering, manufacturing, construction, maintenance, training, and sourcing. An integrated, systematic approach to implementing process safety elements consistently across these business functions is important to manage changes and sustain strong PSM-related performance.

When requirements apply to contractor personnel, DuPont line management is responsible to communicate this to contractors. To help convey process safety information, needs, and issues, regions are responsible for helping to ensure that effective systems are developed and maintained for PSM-related communications and information sharing both to and from sites. Each region has established a system to share and collect information across all sites. Communications include but are not limited to:

- Key learning, results, and trends involving process safety incidents (both internal DuPont and external industry events, where appropriate)
- Changes to DuPont PSM-related policies, standards, and guidelines
- Availability of PSM-related technical training sessions
- Changes to local country or region PSM regulations
- Updates on internal PSM program initiatives, key issues, metrics, and accomplishments
- Site needs and issues related to PSM



Process Hazard Analyses (PHAs) are used to identify, evaluate, and develop methods to control significant hazards associated with both high-hazard and low-hazard operations. These hazards generally represent the potential for fires, explosions, chemical reactivity, and/or the release of toxic materials. PHA's use an organized and methodical study approach, seek to achieve a multi-disciplined consensus on hazard identification and control, and document results for future use in follow-up, emergency planning, and training of personnel involved in operating and maintaining the process. Qualitative and Quantitative risk assessments are conducted to determine the expected frequency and consequence of potential hazardous events.

We operate many high-hazard operations around the world and we recognize that the governments and communities where we reside will hold us accountable if not operating safely. The impact of safety on business performance will be most acutely felt should we lose our right to operate. We are Committed to Zero to preserve that right.

### **PREVENTION THROUGH DESIGN AND ENGINEERING**

DuPont began applying safety to the design of our earliest process, manufacturing explosives. Since then, the DuPont Engineering Department has been designing and constructing operationally safe facilities for well over a century. During that time, we have followed continuous improvement project practices utilizing a leader and following a team approach. Within the company we have a saying: "After 200 years, safety is still our first thought." This is demonstrated by our Engineering principle of "Safety Through Design." SHE is not a part of our Capital Project Process – it IS our fully sustainable process. A project cannot be executed without it. This approach creates a fully sustainable process – from conceptualization through production. It is an intranet, web-based process that is accessible to our Engineering personnel worldwide and to our design partners who supply leverageable project staff. This assures a benchmarked, continuously improved, robust and reproducible system available for global application that are a competitive advantage for our businesses. We routinely benchmark our projects against competitors through a third party, Independent Project Analysis (IPA), to assure the effectiveness of our systems.

Our system is composed of a Project Guide (What), Best Practices (How), Engineering Standards (Why), Value Improving Practices (Improve Cost, Schedule & Operability), Safety Through Design tools (Prevention Assurance), Management of Change practices (Cost and Schedule control), Project Creation coupled with Estimating Tools (Financial Accuracy) and Operational Readiness focus areas (Safe Start – Up). This system drives application of the hierarchy of hazard controls in design process for both chemical processes and facilities, with the goal to provide inherently safer manufacturing processes, facilities, and infrastructure.

We also recognize that having a system alone does not guarantee outstanding results without the discipline to follow the practices: owner accountability drives that needed element of our system. We have an integrated team Gate Keeping project governance method led by a single Project Team Leader, who is the single accountable point for all project activities. The Project Team leader, by being DuPont personnel and dedicated to our core values, places safety first. Safety / Prevention is the foundation of the DuPont Engineering Project System and will be firmly in place as we design, build and operate into the future. (*Appendix 13 – Guide to Project Implementation or GPI Executive Summary*).

### **OPERATIONAL SHE PROGRAMS**

Our SHE Commitment (S2Y) states, "Compliance with this Commitment and applicable laws is the responsibility of every employee and contractor acting on our behalf and a condition of their employment or contract. Management in each business is responsible to educate, train and motivate employees to understand and comply with this Commitment and applicable laws." Our commitment goes well beyond compliance; we are committed to achieving zero. We have the same expectation of our contractor partners – any non-DuPont entity that provides goods and/or services described in a contract for DuPont.

Decades ago DuPont addressed the contractor co-management/co-employment issue with the issuance of an internal Labor Law Bulletin. This bulletin stated that it is in DuPont's best interest to interact aggressively with contractors on safety matters such that DuPont's influence results in fewer injuries than would be achieved otherwise. With this



approach, we established an industry standard that many other owner organizations have adopted. DuPont was active in industry associations such as The Business Roundtable, Construction Industry Institute (CII) and Construction Users Roundtable (CURT), leading the industry by promoting this approach. Standard Administration of On-site Contractor Safety (*Appendix 14 – Standard S39G–Administration of On-Site Contractor Safety*) includes provisions to assist line management in developing and implementing procedures and practices to control or minimize the risks associated with on-site contracted activity. Each site designates a capable contract administrator to oversee the contracting process. The roles and responsibilities of DuPont supervision/ contract administration are clearly defined, communicated, and executed.

Each site has applicable written procedures and practices to minimize risk to DuPont and contractor employees from potential injury or illness and to prevent environmental harm, property damage, and business losses as a result of contracted activity. Contractors are not to be used for jobs DuPont employees would not be assigned, unless these jobs can be performed safely with the contractor’s special expertise and training.

The DuPont six-step contractor safety management process is designed to provide a methodology for managing the risks associated with contractor activities at DuPont facilities. All DuPont facilities using contractor services on-site observe the provisions of the six-step process, which are as follows:

- Contractor prequalification – identify those firms willing to work by our values.
- Contract preparation – detail enforceable standards necessary to achieve desired outcomes.
- Contract award – communicate responsibility and accountability for executing against contract terms.
- Contractor orientation and training – communicate standards to those who will perform work.
- Contractor work coordination and auditing – daily, weekly, monthly monitoring of work against contract terms.
- Contract evaluation – periodically recognize desirable conduct and counsel against undesirable behavior.

Our Commitment to Zero for employees and contractors alike has yielded world class safety performance for both groups, with contractor performance on par with employee performance. As a result and since DuPont is self-insured, we have provided casualty insurance (Owner Controlled Insurance, OCIP) to a large group of contractor organizations in the U.S., and this program has yielded \$4.8 million cost avoided to DuPont annually or ~37 million over the last 8 years (*Appendix 15 – DuPont Cost Avoidance Data*). These are contractor organizations that have a significant and long-term presence on DuPont sites. The savings are a result of the difference between the pass-through costs of insurance from the contractors (not included in their fees) versus the contractors’ actual costs under the DuPont OCIP. While we realize the financial benefit, the real benefit is that fewer contractor partner employees were injured than otherwise would have. In fact, many contractor organizations are achieving zero safety performance for years and/or millions of man-hours.

### MANAGEMENT OF CHANGE

DuPont uses three processes to manage change. These are (1) Management of Change – Technology and Facilities, (2) Management of Subtle Change, and (3) Management of Change – Personnel. The requirements for each of these are set in the Corporate Process Safety Management Standard (*Appendix 12 S21A – Part B*), but application is applied to any change that could affect SHE performance. Each site or business develops the specific procedures to implement the requirements of S21A. For Technology and Facility changes, the requirements include description of the change, duration of the change, requirements for risk analysis and pre-start-up review, and impact on other parts of the SHE program such as training, quality assurance, mechanical integrity (e.g. equipment inspection and tests), emergency planning and response, and documentation. The change must be reviewed by competent personnel and authorized. DuPont has developed additional requirements for subtle changes that ensure personnel recognize that subtle or minor changes can lead to undesirable conditions and events as well. The Management of Change – Personnel process recognizes that people are an essential ingredient that is woven through all elements of SHE management, and it is important to maintain a minimum level of specific direct process experience, knowledge and skill in managing SHE within the site line and support organizations. Requirements include periodic review of resource needs based on existing or anticipated skills, knowledge, site initiatives, leading metrics, and workload



balance. This includes analysis of intermediate, short, and longer term resource developmental and replacement needs. Other requirements include training for newly assigned personnel and reviews for impact on SHE for changes to site functional and organizational structures.

### **WORKFORCE EMPOWERMENT, INVOLVEMENT & MOTIVATION**

People are the most important element of the SHE program (*Appendix 2 – Standard S26G–DuPont Safety Principles*). At DuPont, the one essential ingredient in the recipe for a safe workplace is its people. Intelligent, trained, and motivated employees are the company's greatest resource. Our success in safety depends upon the men and women in our plants and offices following procedures, participating actively in all aspects of safety, and identifying and alerting management to potential hazards. By demonstrating a real concern for each employee, a mutual respect is established and the foundation is laid for a solid safety program.

From the DuPont Commitment Management and Employee Commitment, Accountability (*Appendix 7 – Standard S2Z–DuPont's SHE Commitment*), - The Board of Directors, including the Chief Executive Officer, will be informed about pertinent safety, health and environmental issues and will ensure that policies are in place and actions taken to achieve this Commitment.

Compliance with this Commitment and applicable laws is the responsibility of every employee and contractor acting on our behalf and a condition of their employment or contract. Management in each business is responsible to educate, train and motivate employees to understand and comply with this Commitment and applicable laws. Involvement is largely voluntary but it's backed-up by making safety a part of employee's annual performance review, reflected by one or more Critical Operating Tasks (COT).

We deploy our resources, including research, development and capital, to meet this Commitment and we do so in a manner that strengthens our businesses. We measure and regularly report to the public our global progress in meeting this commitment. See our 2012 Sustainability Report (*Appendix 3 –2012 Sustainability Report*). An example of this commitment and belief in action can be seen in the video about our employees at our James River Facility (*Appendix 6 – James River Video*). Further evidence of this commitment is that 66 of our plant sites achieved "Five-Zero Performance" in 2012. In 2011 over 92 percent of our employees (70,000) voluntarily completed our global safety perception Survey.

### **WORKFORCE TRAINING & COMPETENCY BUILDING**

Core capabilities provide a competitive advantage for DuPont. This is especially evident in our SHE efforts including process safety management. Positive performance in these competencies translates in all areas of the business whether it is SHE, marketing, production or quality. There are activities that we use to build competencies such as team events and team building, training and communications. These efforts are planned to ensure they are applied in a consistent manner.

The practices shared above are reviewed to ensure effectiveness through verifications such as first and second party audits. First party audits (knowledgeable members of the facility) of safety, health, environmental and process safety management elements are crucial for a DuPont site to evaluate its practices, procedures and knowledge base for accuracy and effectiveness. In addition to first party audits, DuPont also requires second party audits (knowledgeable/trained members from Corporate or other DuPont facilities) of each location on a regular established frequency.

Through this process DuPont not only continues to enjoy competitive advantage from the advancement of SHE, but verifies its effectiveness." As part of the DuPont Production System, leaders will make time during each day to engage with the workforce to discuss issues. These interactions are also used to communicate and reinforce safety messages as well as surface new concerns.





**IMPACT OF SHE ON WORKFORCE ON & OFF THE JOB**

Concern for the safety and health of employees is deeply ingrained in DuPont culture. This concern manifested by action has been positively impacting the lives that DuPont touches since 1802. One measureable impact is our recordable rates, total and lost workday. Compared to industry averages, far fewer DuPonters are injured/disabled, become ill, or die on the job compared to most employers. Now, multiply this impact by 211 years of continuous operation and the number of lives saved and quality of life preserved is immeasurable.

Our focus on off-the-job safety also has an impact. Since the mid 1950s DuPont has measured off-the-job safety performance and we're confident that this focus has also eliminated off-the-job injury and fatality. Our care for employees is 24/7 and we go so far as to measure off-the-job safety. Our corporate procedure S36G "Investigating and Reporting Off-the-Job Injuries" (Appendix 16) details how we define, measure, report and track our performance.

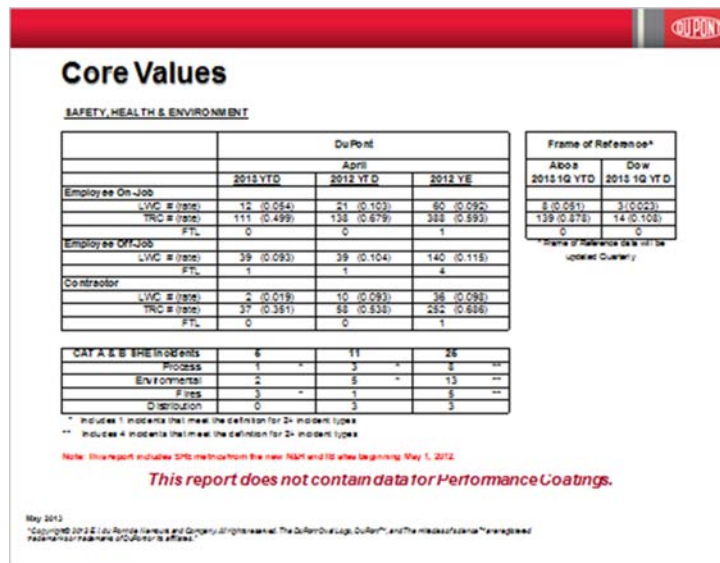


Figure 3

While we can't ever know what pain and suffering has been prevented through our off-the-job focus, we are confident of the impact and realize this impact extends beyond our employees to their family, friends and other loved-ones. One example of this impact would be driving safety, where we enable & encourage families to participate in driving safety programs afforded to our employees.

The same can be said of our contract partners. The performance of contractors on DuPont sites is on par with DuPont performance. Compared to industry and their own company performance, their performance on DuPont sites is typically many times better. Many large, sophisticated contractor firms (e.g. Fluor, KBR, Washington Group) have their corporate best safety performance at DuPont sites or on DuPont capital projects.

Our efforts extend even beyond our walls and employees; DuPont businesses are making an impact on the lives of many in society. Our Kevlar fiber, incorporated in ballistic applications within military and law enforcement, has saved countless lives. Our Nomex fiber, incorporated in protective garments, has saved countless lives in fire-fighting as well as electric utility application. Our DuPont Sustainable Solutions (DSS) business has been working for decades to improve the safety & business performance of thousands of companies helping to eliminate pain & suffering around the world. Many companies that DSS has served were failing businesses but were resurrected as a result of improved safety culture and performance.



DuPont understands the linkage between SHE excellence and business excellence; we live it and have exported this wisdom to other firms around the world. Our contribution and impact is also evident through our participation with organizations such as the National Safety Council which we have supported from its beginning. We were recognized by the Council with the Green Cross award in 2006. Our involvement with the council has taken many forms from Chairing the Board, presenting/exhibiting/ moderating at the Congress, to our current sponsorship of The Rising Stars program.

## SECTION IV – PERFORMANCE MEASUREMENTS AND INFORMATION MANAGEMENT

### SYSTEMIC USE OF LEADING AND LAGGING INDICATORS

The tracking of leading and lagging safety indicators has always been a part of DuPont’s safety culture since the beginning of the company. This practice was strengthened by the Company’s decision in 1915 to report all major injuries and many types of minor injuries to DuPont corporate headquarters which initiated the first systematic analysis of incidents across the company. Today, this practice continues as the company focuses on performance against its Core Value of “Committed to Zero” and is reinforced in the “DuPont Commitment – Safety, Health, and Environment” policy statement (S2Z).

The number of leading/lagging indicators used and the frequency of their evaluation vary based and the needs of each specific discipline (i.e. safety, sustainability, environmental, process safety, etc.), business, site, etc. Some corporate lagging indicator examples are presented in Section V. Corporate leading indicators include evaluating the number “overdue” and “repeat” 2nd Party SHE Audit findings. “Overdue” findings are findings that did not have the Corrective Action Requirement completed by the Target Completion Date. “Repeat” findings are findings that did not have the Corrective Action Requirement completed by the next audit. The use of these two indicators helps identify potential weaknesses in advance of serious impacts with regards to the 2nd Party Audit program. Currently, the company evaluates and communicates the evaluation results for these audit program indicators, based upon a corporate view, on a semi-annual frequency. Individual sites, businesses, and disciplines, may review these indicators on a more frequent basis based upon their specific needs.

The company has also reported its sustainability progress to the public for the last twenty years. In 1992, when other companies were asking questions about pollution and environmental responsibility concerning sustainability, DuPont was asking questions concerning corporate responsibility and found no best practices to follow. As such, the company began tracking indicators which has allowed opportunities to be identified where DuPont can reduce its operational impacts, including decreasing greenhouse gas (GHG) emissions, water consumption and energy use.

### QUALITY AND APPROPRIATENESS OF MEASUREMENTS AND DATA COLLECTION

DuPont firmly believes in collecting appropriate SHE data, which has resulted in various company standards and policies being written to reinforce this belief and commitment. The “Incident Investigation” Standard (S3Y) which describes the baseline expectations for incident investigations is intended to give a systematic, in-depth approach to SHE incidents investigations. The “Safety, Process Safety, Fire, Distribution, and Environmental Incident Classification and Reporting” standard (S8Y) describes the baseline expectations of what data is to be collected during the investigation of safety, process safety, fire, distribution, and environmental incidents. Every policy and standard is reviewed on a specified frequency to ensure the requested measurements and data will enable thorough and proactive evaluations of company performance.



To ensure consistency in incident investigations and trend analysis, DuPont uses an internally developed database called the “Incident Tracking System” (ITS) to collect and store incident investigation data. The data is used to evaluate trends including leading and lagging indicators plus is the basis for corporate SHE metrics. The database is continuously reviewed and revised (example: adding additional data fields) to proactively evaluate performance trends. The same data integrity commitment is applied to sustainability data. A “Corporate Environmental Plan” (CEP) was written to allow “company wide” planning and evaluation of progress towards meeting the sustainability goals. Also, an internally developed database was created to allow all sustainability data to be located in a centralized location. Each year, the CEP plan and database are reviewed and revised appropriately to allow a continuous proactive approach to evaluating progress towards the sustainability goals.

### **DATA ANALYSIS AND EVALUATION**

Reporting of SHE incidents is mandated by various SHE standards and the line organization is held accountable for ensuring incidents are identified, properly classified and thoroughly investigated. Once the investigation is complete, the data is stored in ITS to allow more in depth evaluations (example: over time, across businesses, across sites, by incident type, etc.) to be conducted.

Data evaluations are conducted using a variety of tools including spreadsheets, statistical packages, and trend charts. Also, various benchmarking efforts with external companies are conducted to evaluate DuPont’s performance versus other companies with similar business structure and/or product lines. For example, on an annual basis, DuPont submits data to the American Chemistry Council (ACC) regarding various SHE initiatives (e.g. water consumption, OSHA incidence rates, process safety incidents).

Sustainability data is evaluated on a yearly basis to determine corporate progress towards the goals. Results of that evaluation are published in the yearly “Sustainability Progress Report”, which is posted on the DuPont Intranet site for employees and the DuPont Internet site for external clients and groups.

All databases are maintained by trained data management personnel who focus on creating data systems which force discipline in data entry (example: “drop down” list of options versus “open text” fields). Incident and sustainability data is routinely evaluated by trained data management and SHE personnel to ensure the highest data integrity.

### **ACCESSIBILITY AND USE OF INFORMATION GENERATED FROM PERFORMANCE DATA**

SHE and sustainability metrics/data are available to all employees via the DuPont intranet to enable “open” access to the data. Additionally, various subgroups (e.g., businesses, functions, and sites.) publish their specific metrics/data to show individual group performance using their respective systems (e.g., local site systems, and visual dash boards). By communicating performance, each group is able to proactively drive continuous improvement by showing where the company is with respect to the goals and asking employees for feedback as to how to improve performance or expedite performance.

Employees whose main function involves SHE activities can gain access to additional ITS and CEP data using an “account request” system. This allows SHE employees to perform more advanced data analysis based upon their specific discipline (example: occupational health, electrical) or needs. Both ITS and CEP allow the user to query data in numerous ways (example: by year, region, incident type) to enable more thorough/advanced evaluations.

### **COMPARABILITY**

As stated above, ITS and CEP data can be queried in various ways including by region, incident date, incident type, site, business unit, or function unit (example: engineering, marketing and sales). This allows evaluations to be conducted to determine where additional efforts are needed to achieve prescribed goals plus evaluate trends. In addition, SHE data from frame-of-reference companies are routinely used to evaluate DuPont’s own performance. These evaluations are a critical component to evaluate whether DuPont is progressing towards its Corporate Policy of “Continuously Improving Processes, Practices, and Products” plus its Core Value of “Committed to Zero”. In addition, DuPont participates on numerous external committees to allow “company to company” comparisons and



sharing of SHE data. For example, as stated above, DuPont provides various SHE data on an annual basis to the ACC. DuPont also participates actively on the Chief SHE Officers Forum of The Conference Board and the Campbell Institute. For employee “on job” Total Recordable Rate data, DuPont performance is compared to Alcoa and Dow on a monthly or quarterly basis. For sustainability, DuPont provides SHE data on an annual basis for the Dow Jones Sustainability Index (DJSI) and the Carbon Disclosure Project (CDP).

## SECTION V – SHE RESULTS

### RECORDABLE INJURIES AND ILLNESSES

DuPont’s performance in 2012 was its best-ever as measured by total recordable rates. Over the ten year period from 2003 through 2012, DuPont improved its Total Recordable Case (TRC) rate from 1.30 to 0.54 or a 58 percent reduction in total injury rate. Over that same period of time, the Days Away Restricted and Transferred (DART) rate was reduced from 0.80 to 0.28, or a 65 percent reduction.

In contractor safety performance over the same ten-year period, the contractor TRC rate improved from 0.88 to 0.67 or a 24 percent improvement. Over that period, the DART rate improved from 0.35 to 0.29, or a 16.5 percent improvement.

From 2003 until 2010, the average US manufacturing TRC rate was 5.63 and the average DuPont rate was 0.95 or 83 percent lower. During the same time period the average American Chemical Council member rate was 1.21 and the average DuPont rate was 21 percent lower.

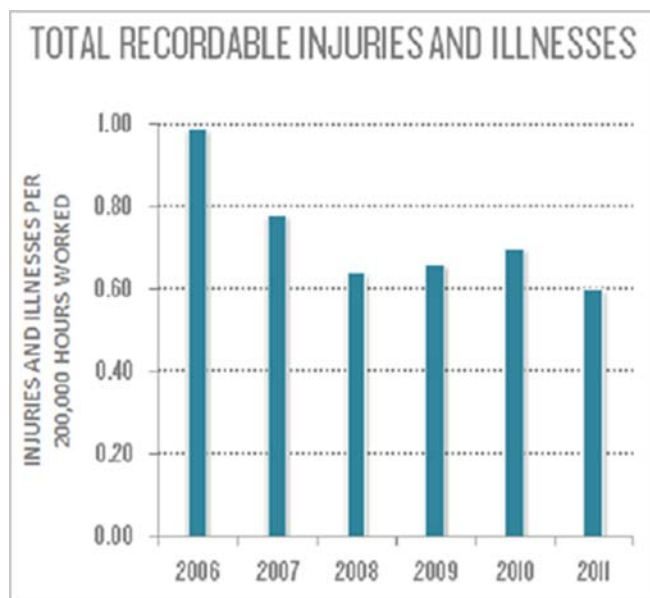


Figure 4

### PROCESS SAFETY

DuPont has shown a significant annual improvement in the composite PSM incident severity rating (as outlined in the American Institute of Chemical Engineers - Center for Chemical Process Safety (AIChE CCPS) metrics guideline for all US sites) with the 2012 severity rating reported at 0.08 (a best ever) which included a reduced number of serious injuries related to PSM events. DuPont has operated safely without a serious process safety incident (PSI) worldwide since 2011.

### ENVIRONMENTAL FOOTPRINT GOALS

Since 1990, DuPont has reduced global air carcinogen emissions by 92 percent. A goal was set to further reduce global air carcinogen emissions by at least 50 percent from a base year of 2004. A reduction of 56 percent has been achieved.

Since the early 1990s when DuPont began taking action to reduce greenhouse gas emissions, the company has achieved major global reductions in emissions. In 1994, DuPont established our first greenhouse gas emissions goal and committed to reduce 40 percent from our 1990 base. After meeting that goal, in 1999 DuPont established a new goal to reduce our greenhouse gas emissions by 65 percent from a 1990 base. By the end of 2003 we had reduced our greenhouse gas emissions by 72 percent. Our current goal is to reduce greenhouse gas emissions by 15 percent by 2015 from an updated base year of 2004. As of 2011, we have reduced by 8.2 percent since 2004.



Our 2015 Footprint Goal is to reduce water consumption by at least 30 percent at global sites that are located where the renewable freshwater supply is either scarce or stressed as determined by the United Nations analysis of river basins globally. For all other sites, we will hold water consumption flat on an absolute basis through the year 2015, offsetting any increased demand from production volume growth through conservation, reuse and recycle practices. We have reduced our consumption by 3 percent at sites in water scarce or stressed locations and 14 percent at all sites (*Appendix 17 – DuPont 2012 Global Reporting Initiative Report or GRI – EN8*).

DuPont sustainability goals address aggressive footprint reduction but we also go beyond to find ways to build business value by promoting a more sustainable society.

One of DuPont’s corporate sustainability goals is to grow our annual revenues by at least \$2 billion from products that create energy efficiency and/or significant greenhouse gas emissions reductions for our customers by 2015. We estimate these products will contribute at least 40 million metric tons of additional CO2 equivalent reductions by our customers and consumers.

Within 5 years we hope to have reached \$1.9 billion in annual revenue from products that reduce greenhouse gas emissions. These products in the marketplace resulted in cumulative greenhouse gas emissions of nearly 16 million metric tons of carbon dioxide equivalents. DuPont products and technologies are diverse and enable avoided GHG emissions for our customers in a number of different sectors and applications (e.g. renewable materials, buildings and construction, alternative energy, transportation, and agriculture). An internal team from sustainability and engineering (with expertise in life cycle analysis) is tasked with identifying those products with use-phase (scope 3) GHG benefits for our customers and tracking annual revenue and associate GHG emissions avoided. The specific methodology, assumptions, emission factors, and GWPs vary from product to product, as individual analyses are done for each product by final end-use included in our reporting on this goal (*Appendix 17 – DuPont 2012 Global Reporting Initiative Report or GRI – EN6*).

### **HABITATS PROTECTED AND RESTORED**

Currently, 16 DuPont sites around the globe have been certified by the Wildlife Habitat Council, a Maryland, U.S. based non-profit organization dedicated to increasing the quality and amount of wildlife habitat on corporate, private and public lands. The following five DuPont sites received international recognition at the Wildlife Habitat Council’s (WHC) 20th Annual Symposium in November 2008 for their contributions to wildlife habitat conservation (*Appendix 17 – DuPont 2012 Global Reporting Initiative Report or GRI – EN13*).

- Cooper River Plant - Moncks Corner, South Carolina
- DeLisle Plant – Pass Christian, Mississippi
- Fort Madison Plant - Fort Madison, Iowa
- Parlin Plant – Parlin, New Jersey
- Washington Works Plant - Washington, West Virginia

### **2020 ENERGY GOAL**

Our energy efficiency objective is to reduce non-renewable energy use by 10 percent per price adjusted dollar revenue by 2020 compared to a baseline of 2010. We have set a milestone of 3 percent reduction by 2015.

We have an online database that tracks plant performance toward annual energy targets. Progress is measured by the energy savings achieved from individual improvement projects at each plant. The database currently tracks over 1,000 completed, in progress, and proposed projects, some of which require capital investment. Availability of capital for energy efficiency improvement projects is critical - setting public goals alone will not drive improvement unless you have adequate financial and personnel resources available to implement improvements. For example, in 2007 DuPont created an Energy Capital Fund from which we invested \$60 million in energy projects that will reduce CO2 emissions and energy use by 6 percent, and deliver \$170 million in projected 10-year net present value at an aggregated 60 percent IRR.



Plant Site Managers have responsibility for all aspects of site operations and set priorities for the workforce. Their performance is judged by annual metrics (e.g. safety, environment, fixed costs). Energy is a new metric being added to the Site Manager report card, providing additional incentive and individual accountability for our success in meeting annual energy savings targets. With over 100 plants with annual energy targets, Site Energy Champions are an essential part of implementing the Bold Energy Plan. Site Energy Champions have monthly conference calls and bi-annual corporate energy conferences where they can share best practices and identify opportunities to rapidly replicate successful projects.

### **PRODUCT STEWARDSHIP**

As part of our comprehensive Product Stewardship & Regulatory Management system, the goal is to bring all new and existing products and services through a product stewardship review. Product stewardship reviews for all products and services are scheduled, conducted and documented prior to commercialization and repeated on a periodic frequency (e.g., every 2, 3 or 4 years) commensurate with risk. Our goal for new product stewardship reviews is 100 percent and our actual completed reviews in 2011 were 99.1 percent.

All businesses receive an annual internal Product Stewardship & Regulatory Management System audit and an assessment of incidents is included in the performance measurement section of the audit program. External verification that our product stewardship program meets the American Chemistry Council's requirements was achieved in 2007 and was verified again in 2010. We have been an integral part of the development and launched the new ACC Responsible Care code launched in 2013.

## **SECTION VI – LINKAGE BETWEEN SHE AND BUSINESS PERFORMANCE**

### **INTEGRATION OF SHE AND BUSINESS MANAGEMENT SYSTEMS**

DuPont SHE is well integrated with DuPont businesses at multiple levels of the organization through collaborative SHE venues. The DuPont Sponsors Team, which is comprised of senior leaders from SHE, Legal and Operations, actively collaborates to set SHE direction, strategy and budget. In addition, the DuPont Global SHE Leadership Team is comprised of Corporate and Business SHE leaders. The DuPont SHE Extended Leadership Team, which is comprised of Business SHE Leaders, Competency Leaders, and Regional Leaders, actively collaborates and facilitates SHE planning, and also has the responsibility of providing necessary support and leadership to line management in the execution of SHE strategies. A DuPont SHE Review Board utilizes a broad cross-section of voice-of-customer members to ensure all businesses and functions are well connected to SHE, and to solicit feedback on communication, support and deployment of SHE initiatives.

Process safety management (PSM) in DuPont is an integrated global risk management system that is applied at all sites and in all businesses on a global basis to manage acute hazards including but, not limited to fires, explosions, reactive chemicals, and toxics. The DuPont Senior Vice President of Global Operations serves as the leadership sponsor for the DuPont PSM Competency Team led within the Global SHE function. Each major business conducts an annual PSM performance review involving senior leadership to evaluate performance (both incidents and leading indicators), PSM in major projects, PSM audit results, personnel changes involving key leaders, acquisitions, and adequacy of resources. Businesses that handle Highly Toxic Materials (HTMs) such as chlorine, ammonia, fluorine, and similar substances also conduct an annual HTM stewardship review across all relevant sites, which combine PSM and business elements to ensure effective risk management practices, both on site and as part of product distribution. PSM performance results and new initiatives are also reviewed annually with senior business and operations leaders as well as with the DuPont Board of Directors. Each business, in coordination with SHE, maintains a PSM sister plant



technology (SPT) forum to leverage PSM knowledge and experiences across the global supply chain where identical manufacturing technologies operate in various global locations (30 SPT's currently exist across all businesses). Each business also has responsibility to evaluate and apply inherently safer technology (IST) principles for PSM and there are a number of substantial projects in progress which will result in IST improvements. PSM is also included as a major element in all SHE integration plans related to mergers and acquisitions to help ensure PSM improvements are implemented for all manufacturing locations that have been added to the business portfolio. Lastly, PSM requirements are incorporated into the business processes related to contract manufacturing and tolling in order to ensure that external partners manage their process risks effectively when producing DuPont products.

Our core value of Environmental Stewardship is embraced across all DuPont businesses. We assure environmental compliance at our operating sites and set operational environmental footprint goals (e.g. reductions in greenhouse gas emissions, air emissions, water consumption and energy use) in order to assure that our operations protect the environment and conserve natural resources. Our businesses have also embraced a goal to assure that all manufacturing sites are ISO14001 certified by 2015. To date, approximately 90 percent of our sites are certified, with essentially the only remaining sites being from recent acquisitions. The system is focused on achieving the ISO 14001 and DuPont policy goals of pollution prevention, compliance with legal and other requirements, and continual improvement. As with all SHE processes, the ISO14001 requirements are implemented and tracked using the same on-line system that virtually all sites use to track all corrective and preventive actions, which is another example of integration of SHE and business management systems.

In addition to our commitment to compliance and footprint reduction goals, DuPont recognizes the importance of a strong relationship between our SHE organization and Sustainability. The two global teams work hand in hand to measure and manage our sustainability performance. Sustainability is fundamental to our purpose as a company as we work collaboratively to find sustainable, market-driven solutions to solve some of the world's biggest challenges, making lives better, safer and healthier for people everywhere. These challenges are the primary focuses of our businesses in terms of new products and product innovation, and of our marketplace sustainability goals.

Our Chief Sustainability Officer and organization annually engages separately each of our Business Presidents and their organization in a Sustainability Review to assure progress on both footprint and marketplace sustainability goals and to assist in preparation for each Business' annual strategy review and execution review with the Office of Chief Executive.

The company has been reporting progress on safety, health, and environmental management goals since 1992. This public disclosure helps to track continuous improvement against our voluntary sustainability goals, which have included environmental footprint reduction and pollution prevention since 1987. Today we continue to report against footprint goals with quantified targets for greenhouse gas emissions reduction, water consumption reduction and other metrics as others by 2015. Our 2020 energy goal is to reduce non-renewable energy use by 10 percent per price adjusted dollar. This was designed to improve our energy performance as the company grows and continue our long-standing energy efficiency program.

Product Stewardship is the business process responsible for the Management of a product throughout its existing life cycle focusing on the health, safety and environmental issues at each phase. Product Stewardship is owned by the business units and integrated into the business strategies. The annual Critical Operating Task (COT) process for the Product Stewardship & Regulatory (PS&R) function is developed using data from external and internal sources and then integrated into each business units COT process.

### **EVIDENCE OF ADDED VALUE OR COST REDUCTION**

As an industry leader in process safety, DuPont developed and implemented a broad set of fourteen PSM leading indicators across all sites since 2007, which has resulted in improved PSM focus and incident performance, as well as creating a transparent forum to demonstrate we are meeting our internal commitments. This includes corporate quarterly reporting and analysis of key metrics from each of over 180 operating locations worldwide. DuPont also



tracks lagging metrics such as PSM incidents and near misses. This includes global reporting of all incidents, as well as tracking and reporting of total PSM incident costs which have been reduced by more than 60 percent over the past five years. DuPont has also shown a significant annual improvement in the composite PSM incident severity rating (as outlined in the American Institute of Chemical Engineers -Center for Chemical Process Safety (AIChE CCPS) metrics guideline for all US sites, with the 2012 severity rating reported at 0.08 (a best ever) which included a reduced number of serious injuries related to PSM events. DuPont has operated safety without a serious process safety incident (PSI) worldwide since 2011.

In 2004, DuPont made a commitment to the American Chemistry Council to adopt the management system approach for implementing Responsible Care® in the U.S., including mandatory independent third-party certification. The decision was made to apply the Responsible Care® management system for all DuPont businesses globally. The Product Stewardship & Regulatory Management System (PS&R MS) has provided an integrated, approach that creates a strong connection with senior leadership to drive improvements in policy, planning, implementation and develops transparent business product stewardship metrics as measures of performance. In many of our businesses, our safe and reliable supply chain is a customer value proposition.

Our 2015 environmental footprint goals identify opportunities where we can reduce our operational impacts, including decreasing greenhouse gas emissions, water consumption, and energy usage. From 1990 through 2004, DuPont reduced global greenhouse gas emissions (GHG) measured as carbon dioxide equivalents by 72 percent. Since 2004, we have further reduced GHG emissions by 8.2 percent with a goal to reach 15 percent by 2015. There are projects underway that will assure we exceed this goal.

Since 2004, we have reduced absolute water consumption at all DuPont sites by 9.2 percent. From 1990 through 2004, DuPont reduced global air carcinogen emissions by 92 percent. We set a goal to further reduce these emissions by the year 2015 at least 50 percent from a base year of 2004. Since 2004, there has been a 56 percent reduction.

We also have a 2015 goal that 100 percent of the off-site fleet of cars and light trucks will represent the leading technologies for fuel efficiency and fossil fuel alternatives. To date, 78 percent of our U.S. vehicles are using such leading technology.

Our 2020 Energy Conservation Goal is designed to continue our long-standing energy efficiency program, which delivered a 6 percent reduction in total energy use and \$6 billion savings in energy expenditures from 1990 to 2010, while our production actually increased by over 40 percent. To continue our commitment to energy efficiency, in 2011 we started reporting against a new Energy Goal to reduce non-renewable energy use by 10 percent per price adjusted dollar revenue by 2020 compared to a baseline of 2010. We have set a milestone of 3 percent reduction by 2015. Our progress: 2.4 percent reduction since the baseline. Progress over the past few years has been managed through DuPont's Bold Energy Plan that involves energy champions from over 100 manufacturing sites, with annual reduction commitments from virtually all of those sites.

In 2006, we broadened our view of sustainability to include bringing products to market that help our customers along their own sustainability journeys. We created what we call "Market-facing goals" to capture safety, environment, energy and climate challenges facing global markets, and respond with new products and services to help meet our customers' needs and expectations for more sustainable offerings. The market-facing goals have already created exciting revenue growth for the company. For instance, in 2011 we generated \$10B from non-depletable sources and gained \$2B from products that reduce greenhouse gas emissions. In addition, our long-standing energy efficiency program has delivered a 6 percent reduction in total energy and \$6 billion reduction in energy expenditures since 1990.

### **CONTINUOUS AND SYSTEMATIC SHE AND BUSINESS PERFORMANCE**

The DuPont process safety management program focuses on year over year continuous improvements in order to apply key learning from incidents, implement new or revised external codes and standards, address internal voice of the customer inputs, and maintain our recognized role as an industry leader in process safety. Our philosophy





is to go well beyond compliance and manage the risks of all process safety related hazards across all operating locations worldwide. As a result, the corporate policy on PSM is updated every two or three years in order to drive the implementation of improved risk management practices in a consistent and standardized manner across all global sites. Recent additions to the standard in 2011 and 2012 include, but are not limited to, a new focus and explicit policies on fatigue management, management of change – personnel, alarm management, additional near miss leading indicators, supplemental operating procedures, and expanded process hazards analysis. Changes to the internal standards are also combined with updates to our internal audit protocols and checklists to measure implementation across all global sites in a consistent basis. Extensive training and communication mechanisms are also in place when new requirements are included in corporate standards to help ensure each location develops a local plan of implementation and has the knowledge to integrate new risk procedures.

Implementation of the Product Stewardship & Regulatory Management System (PS&RMS) has provided DuPont businesses a standardized framework for planning, implementing and measuring performance of priority work for meeting global regulatory requirements while allowing flexibility to meet the specific needs of individual businesses. The PS&RMS is a proven and valued process and a cornerstone of our commitment to Product Stewardship and Responsible Care®.

Six Sigma methodology is another approach to project management that drives additional opportunities for continuous improvement. The Product Commercialization Framework and other stage gate processes used by each of the business units consider sustainability at each stage of the product development cycle.

As previously mentioned, the ISO14001 environmental management system requirements are implemented and tracked at every site using an on-line system (known as “Manage It Central”, MitC). This system was first used at a handful of company sites to track corrective and preventive actions (CAPAs) related to all site activities. It was identified as being appropriate for tracking ISO 14001 requirements and CAPAs. As a result, it was subsequently rolled out to all manufacturing sites subject to ISO 14001, and now used not only for ISO 14001, but at a large number of sites for a broad array of CAPA activities.

In addition to our 2015 and 2020 sustainability goals, we have also identified three specific global areas that need to be addressed with a growing population: feeding the world, reducing dependence on fossil fuels, and protecting people and the environment. Recognizing the unique expertise we bring to the challenges of feeding the growing population, we announced new goals specifically targeting needs in the areas of food and agriculture. We made commitments to produce more food, enhance nutrition and improve farming sustainably worldwide with a \$10 billion investment in R&D and 4,000 new products planned for launch by the end of 2020. We also announced goals around youth and rural development.

### **DEMONSTRATION OF IMPROVEMENT IN OPERATIONAL PERFORMANCE THROUGH SHE**

DuPont Corporate SHE, in coordination with each region, administers a global 2nd Party PSM audit program, which has been in place for over twelve years in order to measure and drive systems and performance improvements in process safety. Each audit involves five days of on-site review typically with an audit team of three or four experienced auditors. The audit protocol involves an assessment of 300 questions, and each of the 15 elements of PSM as well as the composite audit are scored on a scale of 0-100 percent in order to measure site and unit level performance in an objective reproducible manner. These audits also include a specific evaluation of site leadership and safety culture, including the ten characteristics of Operational Discipline (OD) – that is doing every task the right way each time. The audit process is a dynamic system which has been modified over time based on key insights and needs for continuous improvement. For example, in 2009, DuPont developed a group of specialized PSM Mechanical Integrity and Quality Assurance auditors who have been assigned to audits over the past three years involving higher hazard processes. This internal initiative has resulted in a much more detailed and thorough evaluation of MIQA during the audit process. The 2nd Party audit results are analyzed each year for trends and key learning in order to further strengthen the existing program.



## 2013 Robert W. Campbell Award

Submitted by E. I. DuPont de Nemours

As part of our comprehensive Product Stewardship & Regulatory Management System (PS&R MS), the goal is to have all new and existing products or product lines covered by a product stewardship review. Product stewardship reviews for all products and services are scheduled, conducted and documented prior to commercialization and repeated on a periodic frequency (e.g. every two, three or four years) commensurate with risk. The product stewardship review process is one means to verify that effective risk assessment and risk management processes are implemented for each product or product line and to identify opportunities for continuous improvement. The process also requires businesses to conduct product stewardship reviews when significant changes to hazard, exposure, product use, regulatory, or other information is obtained.

The Strategy for our Collaborative Centers is to meet our business requirements for product compliance in light of intensifying and evolving regulations and risk management. We will achieve this goal by bringing together our collective knowledge and expertise, and finding innovative ways to further add PS&R value in all the countries and markets where we do business. Our Collaborative Centers provide a greater opportunity for PS&R professionals to further their development and recognition while delivering year-over-year performance improvements in quality, timeliness, and cost.

Our focus on environmental stewardship has resulted in performance that gives the public cause for confidence in our operational discipline. Footprint reductions to achieve the environmental goals, as described earlier and a commitment to compliance enhance the desire of the public – including the surrounding communities – to allow us permission to operate. Businesses and the manufacturing sites that operate for them have come to recognize that often reductions in waste and emissions are best accomplished through improvements in uptime, first-pass yield and quality. This contributes to the bottom line not only through reductions in pollution control expenses, but through reductions in raw materials, energy and operating costs, as well. DuPont Engineering has devised a number of knowledge-based engagement processes, including the “Value Accelerator” process and various “Value Improving Practices” (VIPs) to assist sites and businesses identify and screen for opportunities for improved energy efficiency, waste minimization and other design or operating improvements that will lead to both environmental benefits and cost savings.

We have adopted a corporate certificate for ISO 14001 with 110 sites certified under a common management system. This enables us to effectively drive best practices and systems and track performance vs. expectations in their performance vs. our commitment to zero. Standardization provides a framework for excellence and efficiency while providing flexibility for sites to meet business needs.

At DuPont, our approach is sustainable growth, the creation of shareholder and societal value while we reduce our environmental footprint throughout the value chains. Every day, sustainable growth is carried out by our most important resource, our employees. DuPont employees around the world are helping us walk the talk of sustainability by exploring, discovering, innovating and delivering solutions to sustainability challenges. Through product innovation, business strategy improvements, and finding opportunities in operations, our employees are dedicated to helping DuPont reach our corporate sustainability goals. Each year, we hold the Sustainable Growth Excellence Awards to celebrate the accomplishments of teams of employees who are championing sustainable growth in the regions and businesses in which they operate. Each team is presented with a \$5,000 grant to donate to the charitable organization of their choice. Some of the recent awards went to projects that changed mindsets in environmental remediation, reduced energy while saving a business area \$44 million, and transferring surplus heat from a manufacturing facility to heat homes in the community.



## **SECTION VII – LESSONS LEARNED AND PATH FORWARD**

### **LESSONS LEARNED**

DuPont maintains an extensive set of internal PSM requirements that drive continuous improvement and promote organizational learning. This includes a rigorous incident investigation procedure to consistently classify and report all incidents worldwide into one common system, which is used for measuring performance and generating detailed incident trends and key learning. Where substantive trends are identified, these may be addressed through additional training materials, focused auditing, development of new tools and solutions to assist sites, adoption of annual goals/objectives, and updated requirements in corporate policies. For example, the global PSM incident trend analysis conducted between 2005 - 2008 indicated a clear trend where the PSM mechanical integrity (MI) element was a significant contributor to the overall incident rate. This analysis resulted in a broad based global operations initiative to strengthen the MI element, which has been a special focus area for the past three plus years involving the hiring of additional MI resources, focused site leadership and MI practitioner training, enhanced auditing, and the development of additional performance tools (including heat maps at each site to track improvements). In addition to a global incident trend analysis review completed on an annual basis, each operating site also conducts an incident trend analysis to evaluate improvement opportunities at the local level. Lessons learned involving a specific manufacturing technology or hazard such as highly toxic materials, highly reactive chemicals, and combustible dusts are shared and leveraged across the applicable sister plant technology teams for each of these areas as well as many other subjects.

Lessons learned are also incorporated into global training materials in order to institutionalize the knowledge and ensure it is communicated to relevant employees who have functional roles and assignments that may related to the topic. This training may involve classroom training, webinars, and self-directed computer based instructional methods. DuPont also maintains a formal system and explicit internal requirements for the Management of Change –Personnel (MOC-P) which applies to all vital PSM roles both on and off site, including site managers, line management, manufacturing technical, maintenance, and SHE personnel. This MOC-P process is also a primary means to educate newly assigned personnel on key PSM knowledge and risk management practices in order to sustain PSM performance as new personnel are assigned at all levels, including sites, regions, businesses, and corporate functions.

In 2010, DuPont senior corporate leaders acknowledged the strategic importance of product stewardship by engaging in the development and support of the mission of the Product Stewardship Function. The mission of Product Stewardship and Regulatory (PS&R) is to enable DuPont businesses to effectively and efficiently comply with regulations and meet stewardship commitments in the markets where we choose to compete. We also drive competitive advantage by catalyzing product innovation, enabling new business models, and providing insight and advocacy through proactive engagement with key regulators and stakeholders. The strategy employed to accomplish this mission is to operate the PS&R Function with a unifying culture, clear accountabilities, and defined roles for resources in corporate, regional, and business organizations.

Success in carrying out the mission and strategy is facilitated through an organizational operating model wherein highly competent experts, embedded in each business unit and resident in many countries, collaborate to develop standards, guidelines, and protocols which are implemented and audited to assure the highest level of conformity and compliance with continuous learning and improvement.

The growing strategic business importance of the PS&R function is driven by two external factors, increasing government regulation and heightened product stewardship expectations from stakeholders including customers, consumers, and other interest groups. Our challenges include the rate and magnitude of the change driven by these external forces and the diversity of products and markets served by DuPont businesses worldwide.

A key factor in the success of our environmental management system has been strong company senior leadership, while driving engagement at all levels. Shortly after he made his public landmark “London Speech” on corporate environmental responsibility in 1989, then Chairman and CEO Ed Woolard spoke to the employees noting that CEO also meant “Chief Environmental Officer”, and that all employees should consider themselves CEOs in that context.



Then all employees were issued pins with “CEO – Chief Environmental Officer” on them. While these buttons were clearly nothing more than a symbol, they served as a starting point for grassroots employee engagement such as the Wildlife Habitat committees at many sites globally that continues to this day. These efforts were bolstered by the “DuPont Safety, Health and Environmental Commitment” issued in 1994 and signed by corporate leadership, with poster-sized copies rolled out throughout the Company for employees at virtually all locations to sign. Every few years this Commitment has been reaffirmed by leadership and employees in a similar manner.

The DuPont SHE Commitment brought with it the statement “The Goal Is Zero”, first referring to the long-standing safety goal of zero injuries and the new drive towards zero waste and emissions. As the SHE Commitment evolved, “The Goal Is Zero” expanded to encompass injuries, environmental incidents, ethics incidents and people treatment incidents. Today the statement has been further enhanced to “The Commitment Is Zero” in order to emphasize the personal responsibility that all employees need to take to drive these core values.

To further emphasize the DuPont commitment to environmental stewardship, leadership directed the Company to achieve various emissions reduction and conservation goals, such as for energy, greenhouse gases, air emissions, etc. Periodically, as the goals were met – sometimes well ahead of schedule – new goals were set so that there were always “beyond compliance” environmental challenges in front of the businesses, sites and employees. In addition, business segments were encouraged to set environmental goals meaningful in the context of individual segments, such as the zero landfill goal set by one of the more significant waste-to-landfill business segments, Building Innovations, and achieved by the end of 2011 and demonstrated in full-year 2012 performance.

### **PATH FORWARD**

Through our Commitment to safety, health and environmental excellence, we affirm to all our stakeholders, including our employees, customers, shareholders, and the public, that we work collaboratively to bring sustainable, market-driven and innovative solutions to solve some of the world’s biggest challenges, making lives better, safer, and healthier for people everywhere. We implement those strategies that build successful businesses and achieve the greatest benefit for all our stakeholders with respect and care for the environment without compromising the ability of future generations to meet their needs. We continuously improve our practices in light of advances in technology and new understandings in safety, health and environmental science.

DuPont Global Operations, in partnership with the Corporate PSM Competency Team, has developed and formally adopted year-over-year annual PSM related global goals and objectives in all regions in order to further enhance our risk management policies. For example, a major three year initiative was completed in 2011 to improve the design, operation, and maintenance of safety instrumented systems (e.g., safety interlocks) across all sites. In 2012, a similar critical operating task was completed with a focus on implementing a formal and integrated alarm management program at each site. Work is also currently underway to apply key PSM elements and procedures to the transportation safety management system in order to strengthen our risk management capabilities with off-site product distribution via bulk rail, truck, and portable container (ISO) transportation. The fundamental elements of our success in process safety are multi-faceted and include: 1) a mindset across global operations to manage all process hazards consistently in a “beyond compliance” philosophy with a high degree of felt leadership and operational discipline, 2) maintaining, applying, and updating our core internal PSM standards and procedures to drive standardization and apply new knowledge for institutional learning and continuous improvement, 3) training and development of internal PSM resources in order to administer the program in a sustained and consistent basis, including formal “Management of Change –Personnel” processes as people come in and leave the company, and 4) administering a rigorous PSM data management system to measure and drive performance improvements including 1st and 2nd party PSM audit results, a broad set of site and corporate routine leading, incident reporting and trend analysis, and annual goals and objectives.

The Product Stewardship and Regulatory (PS&R) operating model is designed to manage this complexity. However, we constantly need to improve processes to meet new and changing business conditions by adding new systems and functionality to assure that we keep pace with the changes. Recognizing the challenge, complexity and rate



of externally driven product stewardship expectations, we recently brought together experts in the key areas of chemical risk management, hazard communications and regulatory data under the umbrella of a global organization structure we call Collaborative Centers. This change will better facilitate the creation of standardized practices and will leverage expertise and resources to meet changes. Our talent management and training efforts are continuously expanded and improved to assure that we can recruit, retain, educate, and motivate people responsible for PS&R work. Our communications team has created a suite of tools that facilitate the rapid exchange of critical knowledge through an internal website, new letters, blogs, and info flashes. DuPont's regulatory advocacy efforts have been strengthened and built a competency in regulatory intelligence gathering and analysis. A major upgrade to our regulatory data systems is underway and will soon be integrated into the One DuPont supply chain operating environment to better automated compliance checking and hazard communications.

Our approach to environmental stewardship has evolved from focusing on compliance to include footprint reduction and, more recently, sustainability. Yet we recognize that if we are to be an environmental leader, we must continue to demonstrate excellent in all three of these areas. Compliance provides the operational discipline and permission to operate that enables us to drive reductions in environmental footprint for ourselves and our customers. Our managing systems, such as ISO 14001, provide us with the framework to drive and track our performance to ensure continual improvement.

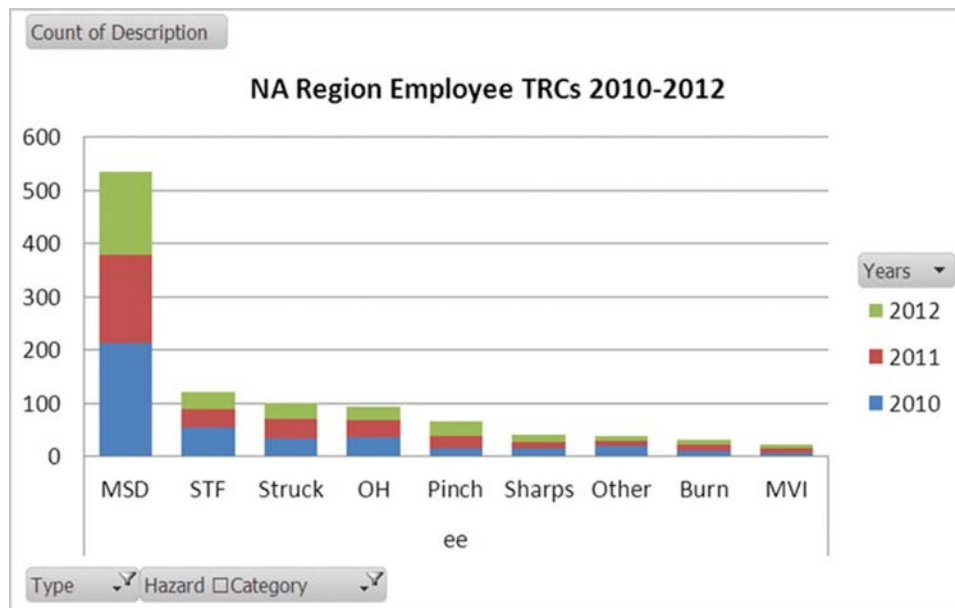
DuPont has reported its sustainability progress for the last twenty years. During this time our sustainability focus has grown from managing our operational footprint to helping our customers lighten their environmental footprint across the value chain. Our long-standing commitment is to sustainable growth — creating shareholder and societal value while reducing the environmental footprint in the value chains in which we operate. Today, we are looking toward the future and asking ourselves the question: How can we meet the challenges that accompany a growing population? We are working together with customers, partners, academics, governments, NGOs and other organizations to find new and better ways to provide for the world's food, energy and protection needs. We believe in the problem-solving might of inclusive innovation.



## EXAMPLE SHE CHALLENGE

### Example SHE Challenge – Reducing musculoskeletal injuries

Statement of Problem: In 2012 it was recognized that DuPont had reached a plateau on reducing Musculoskeletal Disorder (MSD) injuries and a new approach was needed. MSDs describe a group of workplace injuries and diseases related to the soft tissue structures of the body including bones, muscles, ligaments, tendons and discs in the spine. Manual tasks are a common cause of MSDs. The occurrence of MSDs in the DuPont workplace is most prevalent in the North America where the workforce is in the process of renewal. For example, between 2010 and 2012, over 50 percent of all Total Recordable Injuries (TRC) were MSD related (fig 1) in North America for DuPont.



Descriptions of Action: A new approach was needed. A cross-functional team was brought together to:

- Improve existing processes for MSD injury case management
- Identify barriers contributing to inconsistent and/or ineffective case management
- Generate recommendations that contribute to eliminating barriers
- Develop a Global Guidance Document that outlines key requirements and protocol of injury/illness case management
- Develop a communication and training program.

The team's work on understanding barriers and finding solutions led them to organize the approach in three buckets: Proactive, Reactive and Leading Indicators

**Proactive** – to make a difference these factors need to be in place and maintained over time.

- Well trained ergonomic team - trained to help eliminate and reduce workplace stressors
- Ergonomic Assessment Priority List - identifying, conducting and implementing actions to reduce risk
- Operating Discipline (Do each task right every time) and audits of MSD safe values and behaviors; posture, repetition, force to reinforce sound body mechanics and proper rotation for task.



## 2013 Robert W. Campbell Award

Submitted by E. I. DuPont de Nemours

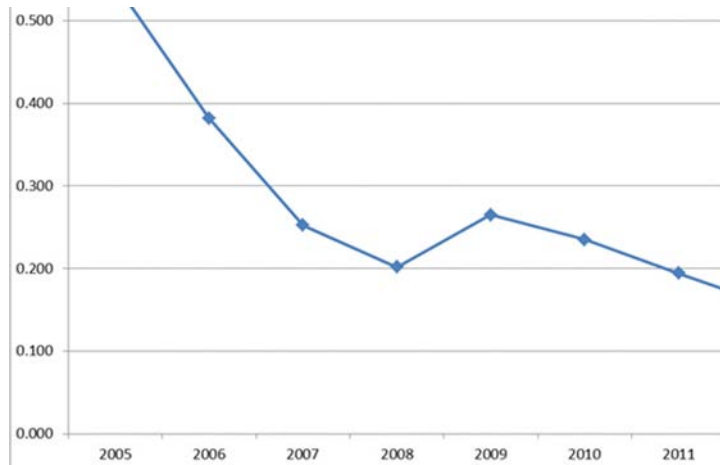
- Early Report of Pain - understanding pain baseline and when to report to health services.
- Health and Wellness with emphasis on MSD Prevention
- Health Care Professional (HCP) Field Coach - (e.g., Physical Therapist or Athletic Trainer)
- Job Role with identified physical demands and task specific instruction on body mechanics
- MSD Medical Surveillance - Agility, mobility testing and matching results to the new job for new hires, periodic reassessments, return to work, and internal transfers

**Reactive** – to make a difference these systems need be strong and very responsive in short term

- Case Management - integrated and responsive
- Early report of pain - the earlier in the progression the more likely steps may be taken to reverse the start of an injury.
- Medical - strong interactive relationship with employee, supervision, Safety and OH resources and external medical support to ensure each MSD case considers: nature of work, proper classification, restrictions, pain reporting.
- Incident Investigation
- When work place stressors are > MSD guidance emphasize Workplace solutions i.e. lift assist, engr or admin controls
- When work place stressors are < MSD guidance emphasize Employee Physical Capability Solutions i.e., conditioning

**Leading Indicators** – help shape the right values and behaviors for prevention – these are driven at the site level.

- Set target for eliminating/reducing workplace stressors among specific tasks
- Audit of “Admin Control OD” - performance to schedule, employee observation and engagement
- Number of education and consult contacts per target commitment by Health Care Professional Field Coach
- Number of msd agility/screening tests - performance to target or schedule
- Number of early reports of pain @ FAC level or less or number of late reports vs. expectations



**Analysis of Observed Results:** The data below shows the estimated MSD injury rates in DuPont from 2005 to April 2013. The sharp decline shown in 2005-2007 is attributed to effective ergonomic programs and early reporting of pain activities. These programs were staffed and led by the site. By 2007 we started to see a plateau in the rates and in 2011 additional emphasis was placed on re-energizing these programs. In 2012 a fundamental shift was made when the cross functional team worked to standardize the approach and ensure that the programs were robust – addressing all aspects of the MSD equation. Health Services, Site Safety, and Corporate Safety have aligned and focused the approach towards eliminating these injuries in the work place and the results have been outstanding. The rate of improvement between 2012 and 2013 is increasing rather than the tapering off that is often seen when TRR rates are so low. The pilot site has achieved record setting performance and engagement of the work force with this multi-step effort. This is still a journey, but bringing all the right partners as part of the discussion and problem solving made the difference. The team also engaged externally, using some of the latest research from published literature. To solve complex problems it is never one solution, but a multifaceted approach that makes a difference.



**Reflection on continuous improvement:** This work will continue to be improved upon; however, from a continuous improvement perspective the key will be to keep the focus on the effort and test whether the right managing processes are in place to sustain the solution. We also learned that not every problem can be solved internally. There is a significant amount of research and publications in this field and these were considered as part of the multi-faceted solution. Working with the line organization to increase their understanding and 'buy-in' was also an important step. Organizationally we have traditionally separated safety and medical, but as we have learned here when working as partners we can develop great solutions. Continued support is needed both from Line Management, safety leadership, Human Resources, legal and health services. Finally, making the connection to the future state of sustainability is this area of MSD improvement.

