



## 2014 Green Tier Annual Report for U.S. Silica Company

### Executive Summary

U.S. Silica Company (U.S. Silica) is a silica sand mining and processing company that provides processed silica sand products to the oil and gas industry, as well as for general industry use in areas such as glass manufacturing, foundries, golf courses, volleyball and filtration applications. U.S. Silica is a publicly traded company that employs more than 1000 people nationally, at its headquarters offices in Frederick, Maryland and Chicago, Illinois, and at its manufacturing facilities across the country. The U.S. Silica facility located in Sparta, Wisconsin was formally accepted into the Wisconsin Green Tier program on July 31, 2013 as a Tier 1 participant.

U.S. Silica has committed to being an environmentally responsible business and an active participant and partner within our host communities.

### EMS Audit Report

In March 2015, U.S. Silica performed an internal audit of the Environmental Management System in place at its Sparta, Wisconsin facility. The audit indicated that the facility was found to be operating in accordance with the requirements found in 299.83(dg). No major non-conformances were identified during the audit. U.S. Silica finds its EMS meets the "Functional Equivalency" criteria and the continual improvement requirements of the Green Tier Program.

### Description of Progress

#### Goal 1: Electricity Usage Reduction

Progress: U.S. Silica constantly seeks to find new ways to reduce its use of natural resources and minimize its impact on the environment. In 2014, the Sparta plant assessed several methods for reducing overall electricity use, including exterior lighting fixtures. In the dredge area, exterior lighting had previously been allowed to operate even when dredging operations were not taking place; this resulted in excess electricity use. The Sparta plant created a standard operating procedure (SOP) specifying that lighting in the dredge area was to be shut down when the dredge was not operating. The Sparta plant continues to look for similar opportunities to reduce its usage of electricity and other natural resources.

#### Goal 2: EHS Backup Role

Progress: The Sparta plant has a designated Environmental, Health and Safety (EHS) Coordinator, who is responsible for coordinating site environmental compliance responsibilities and promoting safe work practices. In 2014, the need was recognized to have additional personnel trained in EHS task work, in case the EHS Coordinator was unavailable or off site when an EHS task or issue arose. The facility trained site employees to perform tasks such as Spill Prevention, Control and Countermeasures (SPCC) inspections, recording monitoring results and visible emissions observations. This enables the EHS Coordinator to involve other employees in environmental and safety processes, making the organization



more flexible overall and reducing the likelihood of compliance tasks being missed if the EHS Coordinator is unavailable.

#### Goal 3: Recycle Water Loop

Progress: The Sparta plant desired to reduce the amount of water it was drawing from its high-capacity wells and from the city water supply. This would lower the plant's costs and its usage of natural resources. After installation of a water recycling loop, which routs water used in sand processing back into the process rather than discharging to the clarification or dredge pond, water withdrawal has dropped by 85%, and the facility estimates an annual estimated savings of over 140 million gallons of water per year.

#### Goal 4: Stockpile Dust Suppression Evaluation

Progress: In 2014, the Sparta facility evaluated whether a dust suppression system for its stockpiles was necessary in order to prevent visible emissions. The moisture content and particle size of the stockpiles was assessed. It was determined that the stockpile had sufficient moisture content to prevent potential visible emissions (no further wetting would be necessary) and that current site practices for fugitive dust minimization were also sufficient to prevent visible emissions from other sources, such as vehicle traffic.

### Environmental Performance

U.S. Silica continued a strong focus on environmental performance and sustainability in its operations in calendar year 2014. A summary of facility environmental performance is below, summarized by environmental aspect:

#### *Energy*

The Sparta facility performed extremely well in regards to energy efficiency in 2014. Both electricity use (in kilowatt-hours per ton of sand produced) and natural gas use (in MMBTU/ton) were lower in 2014 than 2013. Energy use rates for 2013 and 2014 are summarized in the table below.

Energy Use	2013	2014	Reduction (%)
kWh/ton	14.17	10.7	25%
MMBTU/ton	0.18	0.17	6.9%

The increase in energy efficiency is driven by several factors, including reduction of water withdrawn from high-capacity wells and the city water supply, individual smaller projects designed to increase energy efficiency, and economies of scale realized from increased production rates. In addition, centerlining projects were performed in order to reduce natural gas usage in the dryer. This centerlining work is estimated to have saved more than 22,000 MMBTU and \$90,000 in operating costs since implementation in October 2014.



#### *Waste*

In 2013, plant operations generated approximately 34.15 tons of municipal solid waste (up slightly from 33.5 tons in 2012), and approximately 20.33 tons of scrap steel and 8.05 tons of waste paper/cardboard were recycled (up from 0.875 tons of scrap steel and 7.5 tons of waste paper/cardboard in 2012).

#### *Water*

As referenced earlier in this report, the Sparta facility implemented a water recycle loop in order to reduce the amount of water withdrawn from on-site high-capacity wells and the local municipal supply. As a result, the facility has reduced its water withdrawal by 85%.

#### *Transportation*

Overall, U.S. Silica seeks to minimize the carbon footprint of its product transportation by shipping its products to customers by the most efficient method. At the Sparta facility, products are shipped by rail rather than by less efficient methods like trucking, reducing the amount of fuel used to get sand to market.

#### *Stakeholder Involvement*

The U.S. Silica Sparta facility actively partners with local stakeholders in order to understand how best to serve the community and how best to address any potential issues. The facility holds an annual meeting with the community to discuss facility performance and address stakeholder concerns. In addition, the facility Community Outreach Committee conducts activities designed to give back to the town of Sparta; in 2014, these activities included the following:

- Funding local sports programs and organizations such as Ducks Unlimited
- Hosting an "Educators in the Workplace" facility tour for University of Wisconsin personnel
- Funding scholarships for Sparta high school students