***The Japan-based bearing maker equates the low-friction, energy-saving qualities of its products with its aggressive campaign to cut waste and pollution. Its NSK Americas group is a strong part of the team.***

**Led by President and CEO Brian Lindsay, NSK Americas, headquartered in Ann Arbor, MI, oversees 2500 workers at production plants and support facilitiesin the U.S., Canada, Mexico,Brazil and Argentina.**

At the back of NSK’s 2011 Corporate Social Responsibility (CSR) Report, the Tokyo-based bearing manufacturer includes a sampling of opinions about the company’s CSR efforts from some of its 26,000 global employees. Asked to finish this sentence, “Our CSR is…,” their comments range from lighthearted (“Our CSR is to share delight”) to thoughtful (“Our CSR is an activity which unifies a company and employees with its environmental goals”). One makes a simple connection between the company’s fundamental product mission and its CSR goals: “They are about ensuring that our products reduce friction, which means less wasted energy.”

That last comment captures the essence of a company best known for its automotive bearings (but also produces other automotive components and linear motion products) and whose value proposition includes the impact its main products have—*from design through manufacture and use*—on the world at large. The statement also gives dimension to the plant-level efforts that drive the company’s environmental gains.

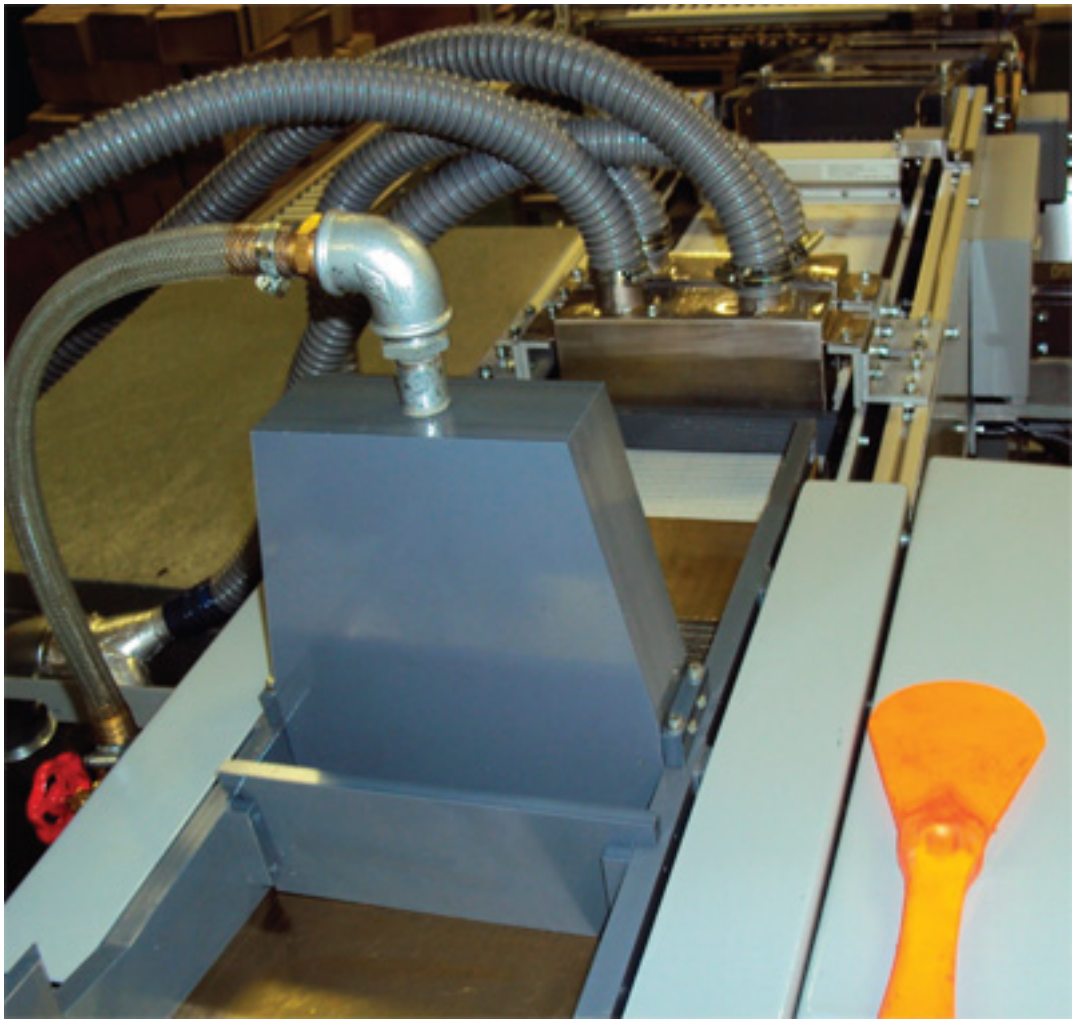
In Japan, for example (in fiscal year 2010), these gains include a waste-recycling rate of 99.3% (92.3% outside of Japan), $CO_2$ emission reductions of 5.8% from FY06 levels and the creation of 16 new environmentally friendly products and technologies. The CSR Report also includes a third-party opinion of these accomplishments, which states that they have brought NSK “nearly to a first stage” of environmental and sustainable maturity. The opinion, offered by a member of the Japan Research Institute, continues with the suggestion that NSK is ready to take the next step, such as “creating a vision of the future world.”

**NSK in the USA**

***Franklin, Indiana…***

NSK employees at the company’s seven U.S.-based production sites believe they are already hard at work on that vision. The recycling rate at the corporation’s Franklin, IN, plant for example, “is probably as close to 100% as anyone could be, 99.9% easily,” says Kevin Dodds, Engineering Manager and Environmental Team Leader at the facility, a producer of automotive hub and transmission bearings. The 20-year-old plant was relatively efficient from the start regarding sustainable benchmarks, but in the past decade undertook a new push in this direction. One of its first steps was to become certified to the international environmental standard, ISO 14000, in 2002.

Dodds’ unfamiliarity with ISO 14000 at that time didn’t stop the plant manager from asking him to lead the certification effort. “As an electrical engineer, I didn’t think this applied to what I would normally be doing,” he says, “but I took it on and over the last 10 years have gotten to really like it.” He credits the plant-wide cooperation required to obtain the certification for opening the plant’s culture to the possibilities and importance of sustainable actions.



***This new NSK production equipment uses high-powered air jets to remove excess rust-prevention oil from balls that are being packed into bearings.***

“ISO 14000 certification is not something the cross-functional team can just go out and do,” he says. “If you don’t have everyone’s participation, you can’t meet the requirements.” Like those of other ISO standards, ISO 14000 requirements are a framework for a management system. To

choose and define the tasks needed to create the framework at Franklin, plant workers had to think about the plant’s environmental issues in a new way. Existing systems had to be measured and benchmarked. Existing procedures—*processes, byproducts, what was shipped out, what was taken in* —had to be redefined with regard to the environmental impact of each. Certification (achieved in 10 months and before NSK Americas’ other operations followed suit) has meant that “now everybody in the plant has certain responsibilities, which are continuously reviewed,” says Dodds. “Ask anyone on the floor what their responsibility is with ISO 14000, and they’ll explain it to you.”

Working toward ISO 14000 certification took time to gain momentum, but not because the plant’s 250 employees were unaware of its importance. “They understood the big picture,” says Dodds, but the from-scratch benchmarking process could not be rushed. Once the benchmarking showed them where they stood, however, “people could see that with very little effort, positive results occur. Then it was easy to get people motivated and keep them involved.”

Landfill waste and recycling were two areas where the Franklin plant had rapid success. Before certification, it had landfilled up to 38 tons of waste each month, “which was even a surprise to me,” says Dodds. The first year after certification, this amount was halved, and has continued to drop ever since. “When you slap that up in front of everybody and they see the charts, they feel good about it and feel a part of it.”

The plant’s focus on recycling was inspired by “a corporate initiative to get to a 98% recycling ratio,” he says, “which meant that the goal for any byproduct was to have 98% of it reused or recycled.” Even cafeteria and miscellaneous paper waste, which once accounted for 2% of the plant’s total waste material, is now reused by a local company, which incinerates the waste to generate steam for the downtown Indianapolis steam loop. “And they have pollution controls in place,” says Dodds.

[redacted]

Source: NSK CSR Report 2011

**NSK Main Initiatives to Reduce CO2 Emissions: Plants and Distribution**

| | Heat Treatment | Production Equipment | Compressors | Air Conditioning | Lighting | Distribution |
|---|---|---|---|---|---|---|
| **Reducing Electrical Usage** CO2 emitted from power plants and regarded as generated by the user of electricity | • Optimization of operating conditions | • Control by inverters<br>• Streamlining<br>• Improvement of production efficiency<br>• Reduction of defects<br>• Downsizing<br>• Development of new technology | • Prevention of pressurized-air leaks<br>• Reduction of pressurized-air use<br>• Reduction of pressure used<br>• Control by inverters<br>• Optimization of operating conditions<br>• Upgrading to highly efficient equipment<br>• Development of equipment that does not use pressurized air | • Selection of models suited to conditions<br>• Optimization of running conditions<br>• Upgrading to highly efficient equipment<br>• Control by inverters | • Upgrading to highly efficient equipment<br>• Control by inverters<br>• Optimization of illumination<br>• Turning off lights | |
| **Reducing Fuel Usage** Directly emitted CO2 from the plant by combusting fuel (petroleum and gas) | | • Conversion to cleaner energies<br>• Streamlining<br>• Improvement of insulation efficiency<br>• Optimization of operating conditions | | • Conversion to cleaner energies<br>• Selection of models suited to conditions<br>• Optimization of running conditions | | • Improvement of load efficiency<br>• Joint transportation<br>• Modal shift |

[redacted]