

Biz NS

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Track 2012

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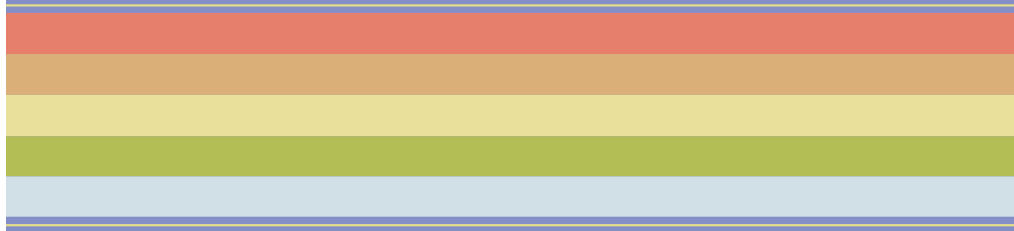
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NS' Efforts
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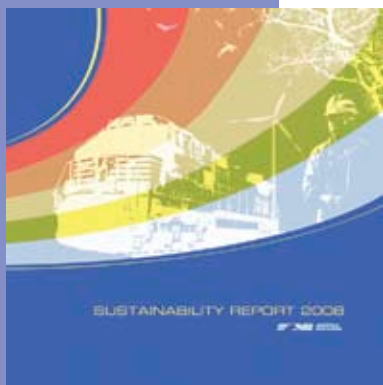
Goals For 2009: more recycling, energy efficiency, employee involvement

If there's a business practice that boosts the bottom line, is good for the environment, and makes our communities better places to live, chances are Norfolk Southern is already doing it – or willing to give it a close look.

That's what being a sustainable corporation is all about. Over the past year, NS has proven to be a quick study. Since launching a companywide sustainability effort in January 2008, NS has made significant strides.

Among the milestones, the railroad:

- **Issued its first sustainability report**, based on internationally accepted standards, that details how NS is working to improve its business performance, reduce its impact on the environment, and be socially responsible.
- **Unveiled a Web-based "carbon footprint" calculator**, called the Green Machine, to graphically show customers how shipping goods by train is more environmentally friendly than by truck.
- **Publicly committed to sustainable practices** by joining S.E. Change, for Society, Environment, Economy, a sustainability initiative run by Business Roundtable, an association of chief executive officers of leading U.S. corporations.
- **Donated a conservation easement** to preserve nearly 12,500 acres of its Brosnan Forest in South Carolina. The Forest's longleaf pine habitat shelters one of the nation's largest colonies of endangered red-cockaded woodpeckers.



Except for the Forest gift, not such glamorous stuff, perhaps, but it's good business, positioning Norfolk Southern as a rail industry leader in efforts to conserve fuel, reduce emissions, use energy efficiently, recycle, and promote environmental partnerships.

"Those are things that we can all be proud of and that the company is happy to have achieved," said **Blair Wimbush**, vice president real estate and corporate sustainability officer.

Another milestone centered on Wimbush: He was appointed the first – and currently only – executive-level sustainability officer among U.S. railroads.

NS' momentum on sustainability continues in 2009. Plans are under way to expand recycling, improve energy efficiency, and increase employee involvement – top priorities for Wimbush.

Already, NS is making it easier for employees in office buildings in Atlanta and Roanoke to recycle paper, cans, and bottles. In the Atlanta initiative, recyclables are collected in single containers and sorted by a recycling company. In Roanoke, employees use separate bins for specific recyclables that the city hauls away.

Being sustainable has become more of a mindset for us, whether it's how we look at recycling, or ways to use green methods in generating energy, or in our construction projects.



In another significant move, NS has hired Waste Management Co. to handle solid waste disposal at field facilities across the railroad's 22-state network – the first time a single company has managed that task. Besides reducing NS' disposal costs, the deal calls on the firm to audit NS' trash stream to verify appropriate service levels and flag opportunities to broaden recycling. The project is overseen by **Chris Coulling**, a strategic sourcing team leader in material management.

For years, NS has recycled such big-ticket items as scrap metals, crossties, waste oil, and batteries. The company now recognizes it can do a better job of recycling plastic bottles, paper, and ordinary trash, Wimbush said, especially in far-flung yard offices, mechanical shops, and other field operations.

Employee input factored into decisions to expand recycling. Through NS' new "footprints" Web site (www.nscorp.com/footprints) – which debuted last spring as part of the sustainability effort – employees can offer "green" ideas. Recycling is at the top of the list.

"It's not always something as simple as you can do at home," Wimbush said, "but employees have been strong in suggesting that they want us to do more, and they want to help us get something done."

The ability to measure the company's successes – such as diesel fuel saved or less energy consumed – is an important piece of sustainability. To track progress in annual sustainability reports, the company plans to step up data collection, one reason NS sought a waste-stream audit.

"A lot of people asked, 'You say you recycle, well, what percentage of your waste stream do you recycle?'" Wimbush said. "Frankly, we didn't have a good handle on what is in our waste stream. Being able to measure those kinds of things enables us to set goals and to know when we've achieved them."

Across NS, employees are thinking greener, said **Wade Bishop**, director environmental engineering and audits. His work group handled the installation and monitoring of two 50-kilowatt wind turbines to help power wastewater treatment plants, one in the North Kansas City rail yard and another in Bellevue, Ohio. Bishop is leading a project this year to upgrade the wastewater plant at the Sheffield, Ala., yard, using green building techniques. It will be the first NS building to incorporate sustainable design materials, including solar roof panels and glass blocks.

"Being sustainable has become more of a mindset for us," Bishop said, "whether it's how we look at recycling, or ways to use green methods in generating energy, or in our construction projects."



One early success is the systemwide lighting upgrade at 600 NS facilities, a massive undertaking scheduled for completion later this year. Spearheaded initially by **Jim Mathews**, a strategic sourcing team leader in material management, the \$10 million project is expected to pay for itself within 2-1/2 years through reduced energy use. The project is overseen now by **Steve McWhorter**, manager energy services in the real estate department.

By the end of 2008, with nearly 40 percent of the brighter, energy-efficient fluorescent bulbs or new fixtures installed, NS recorded reductions in energy use of 16 to 18 percent, Wimbrush said. After the upgrade is completed, energy consumption is expected to drop by 40 percent or more – an annual reduction of 50 million kilowatt-hours. That’s the equivalent of removing 76 million pounds of carbon dioxide emissions, 105,150 pounds of nitrogen oxide, and 271,800 pounds of sulfur dioxide from the atmosphere.

The project is a textbook example of business sustainability: It is environmentally sound, and it makes good economic sense.

In another initiative, Mathews has helped analyze the use of more than 3,000 vehicles in NS’ light vehicle fleet, including some 100 hybrid-powered sedans and small SUVs, examining cost, fuel usage, and maintenance. “This is an attempt to ensure that everyone has the right kind of vehicle to perform their jobs effectively, while improving our overall fleet fuel economy,” Mathews said.

This “right sizing” is especially important in the field, where some jobs but not others require heavy-duty vehicles. “I personally gave up an SUV that got about 17 miles per gallon for a sedan that gets 31 miles,” said **Jeff McCracken**, assistant vice president engineering for maintenance of way and structures. “A lot of us are doing that.”

Field crews also are avoiding unnecessary idling of trucks and machines, he added, further reducing emissions and fuel costs.

■ At far left, workers in 2008 erect a 50-kilowatt wind turbine, with three 24-foot rotor blades, to help power the wastewater treatment plant at NS’ North Kansas City, Mo., rail yard.

■ In top middle photo, a solar panel is used to power NS signals near Fargo, Ga. On top of the signal mast is a small wind turbine being tested for use as backup power.

■ Coal is delivered to the Tennessee Valley Authority power plant in Johnstown, Tenn.

■ Above, Jim Mathews, a strategic sourcing team leader in material management, holds one of the energy-efficient fluorescent bulbs used in a companywide lighting upgrade that will result in energy savings and reduced greenhouse gas emissions.



NS' sustainability efforts are about doing the right thing, for the right reasons, and the right way.

Employees, from 20-somethings to 30-year veterans, have given Wimbrush positive feedback on NS' environmental initiatives. A goal this year, he said, is to keep employees better informed of and engaged in sustainability.

Both the lighting initiative and the Green Machine carbon-footprint analyzer began as "grass roots" projects sparked by individual employees and developed by small work teams.

After learning that NS customers wanted to reduce carbon emissions associated with shipping their products, **Jerri Parks**, director intermodal and automotive systems, started work on a rail-versus-road model in her spare time. She collaborated with employees in MODALGISTICS® and market research on development of the Green Machine. She helped the intermodal group develop a more sophisticated origin-to-destination calculator that offers a more accurate estimate of emissions and is used now to optimize NS bids on intermodal shipping contracts.

In a parallel effort, **Mike O. Miller**, general manager MODALGISTICS, led development of a computer-based calculator for the industrial products group.

"On a personal level, this is important to me," Parks said. "I was raised on a farm, and my father was very frugal, so we practiced 'reduce, reuse, recycle' long before it became a mantra of the green initiative."

The focus on sustainability has helped raise NS' public profile. Besides favorable media coverage, including in *Traffic World*, *Railway Age*, and *The Wall Street Journal*, the railroad is gaining recognition in corporate and government circles.



External interest is filling Wimbrush's calendar with speaking engagements. Since NS issued its sustainability report last fall, he has appeared at high-profile business forums to talk about green supply-chain management, the transportation industry's role in mitigating climate change, and how NS is incorporating sustainability into its business. The hosts of these events have included the Transportation Research Board in Washington, D.C., Ryder and Florida International University, and the Virginia Bar Association's Corporate Counsel Section.

NS won widespread praise for permanently protecting the Brosnan Forest acreage, near Charleston, S.C. The conservation easement, donated to the Lowcountry Open Land Trust, will help state officials and environmentalists preserve a much larger area of South Carolina's rapidly developing coastal plain.

"Those are examples of how we can get our message out while we go about continuing the underlying things we need to do to reduce fuel consumption, minimize waste, and conserve energy," Wimbrush said.

For him, NS' sustainability efforts are about doing the right thing, for the right reasons, and in the right way. That means employees working together to improve business performance, reduce environmental impacts, and support the communities the railroad serves.

"Some people equate sustainability with tree hugging," Wimbrush said. "We may hug a few trees, but that's not what it's really about." ■ BizNS

■ NS' Brosnan Forest features a large stand of longleaf pines, which harbor one of the country's largest populations of endangered red-cockaded woodpeckers.

■ Blair Wimbrush, in top middle photo, heads NS' sustainability efforts. He is the U.S. railroad industry's first – and currently only – executive officer focused on sustainable business practices.

■ A double-stack NS intermodal train, in bottom middle photo, runs through Natural Bridge, Va.

■ NS' Jerri Parks, in photo above, spearheaded the railroad's efforts to develop a computer-based system to show intermodal freight customers how shipping by train is more environmentally friendly than moving goods by truck.

Battery-powered locomotive holds promise

Research and Tests explores alternative Fuels as a green way to reduce emissions, costs

As Norfolk Southern continues pushing to reduce the emissions and amount of fuel consumed by its fleet of diesel-powered locomotives, some employees in the research and tests group are working on an alternative approach.

Their goal: reduce the need for diesel fuel.

In one potentially ground-breaking project, NS is in the early stages of developing a prototype battery-powered locomotive that would bring new energy-storing braking technology to the industry. The experiment is promising enough that the Federal Railroad Administration and the Department of Energy supplied nearly \$1 million in 2008 to accelerate development. In '08 and this year, NS will have invested nearly \$6 million.

The research and tests group – a team of some 27 employees in Roanoke, Va., that includes material scientists, metallurgists, and engineers – is exploring a range of possibilities beyond batteries: from soybean-based biodiesel to the use of electric engines and hydrogen fuel cells. In one project, NS is an advisor to an Ohio firm trying to develop an ethanol locomotive equipped with high-powered engines based on designs from the McLaren racing-car company.

There's no guarantee that these alternatives will ever be practical for the commercial market. Even so, the research initiatives underscore the railroad's commitment to be the industry leader in addressing the nation's energy and transportation needs. The approach is part and parcel of the railroad's pledge to focus on sustainable business practices.



■ Gerhard Thelen

"In the long run, I think that we've got to look at all the options for alternative fuels," said **Gerhard Thelen**, NS' vice president operations planning and support. "A lot of these alternatives would require a substantial capital investment, so that's a question. But there are public and national benefits to reducing our dependency on foreign oil, and developing domestic fuels is one way to do that."

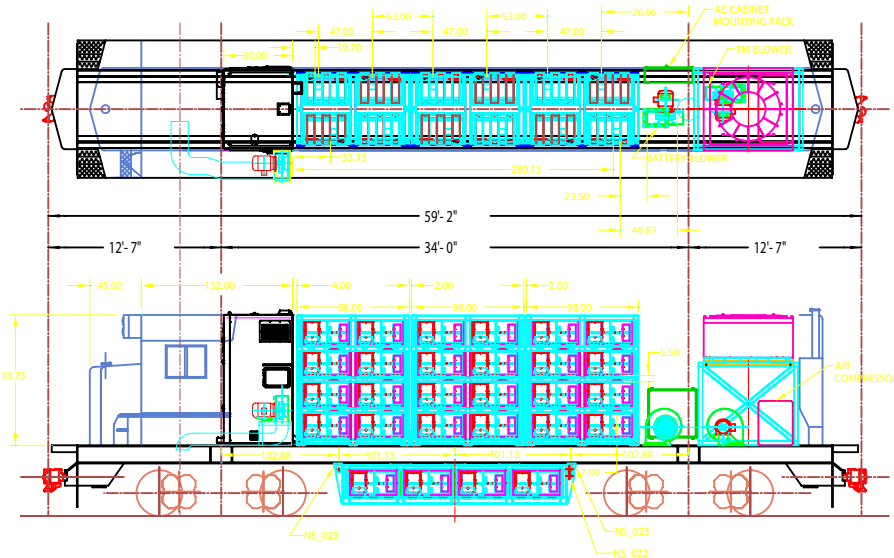
By aggressively pursuing ways to reduce locomotive emissions, whether through alternative fuels or improved diesel technology, NS has a better chance of staying ahead of legislation that could toughen emission standards regulated by the federal Environmental Protection Agency.

Partly for that reason, interest is high in the work NS is doing to develop a battery-powered locomotive.

"The way the EPA looks at us is railroad emissions generated from locomotives," Thelen said. "This battery-powered locomotive will be zero emissions, and that's one of the drivers for us doing this project."

Battery-powered trains are attractive for other reasons. Battery locomotives could be two to four times cheaper to operate, depending on the price of diesel fuel, and because there's no engine and fewer moving parts, maintenance costs should be less. Also, they would not generate as much noise, a distinct advantage when operating in rail yards near residential areas.

NS is collaborating with researchers at Penn State University and the Brookville Equipment Corp. in Pennsylvania to develop a "hybrid" battery locomotive. Brookville has built small battery-powered locomotives used mainly to transport miners into coal mines, where an emissions-free environment is important.



■ NS is working with Penn State University and Brookville Equipment Co. to develop a “hybrid” battery-powered locomotive. The drawings depict where trays will hold 1,080 12-volt batteries, replacing the engine and fuel tank in a modified NS GP38-2 locomotive.

To start, NS is building a four-axle prototype designed for use as a yard switcher for rail cars, mainly because a typical eight-hour yard operation is close to the design limits of a single power charge. “This particular locomotive is what you’d call a plug-in,” Thelen said. “We actually would use a charger off the electrical grid to charge it up.” Money is in the 2009 budget to start work on a prototype six-axle helper locomotive, used to push a train up steep inclines.

NS’ effort to harness battery power is plowing new ground, said **Gibson Barbee**, manager continuous improvement in research and tests. The project team is designing and building an energy-storage system that for the first time would recover energy discharged by a locomotive’s traction motors during braking. The concept is similar to hybrid automobile technology, with expectations that 25 to 30 percent of the locomotive’s battery power can be recharged during operation. In diesel locomotives, by contrast, the dynamic energy generated by the traction motors is blown off as heat and goes unused.

“We are pioneering the use of batteries and recovering this traction motor braking energy,” Barbee said. What’s even better, vendor contracts awarded for design and construction of the system assign the intellectual property rights to NS, the project manager.

“If we do have a major breakthrough, then it’ll be our system,” Barbee said, meaning NS stands to benefit financially if the research leads to a commercial product that other railroads would buy.

However, he added, “We’ve still got a long way and a lot of work to do before we can demonstrate the viability of the first one.”

The prototype locomotive will be powered by 1,080 “Group 31” batteries, an off-the-shelf battery used by the trucking industry. Four of the batteries can power heating and air-conditioning systems in a truck’s cab for up to 10 hours when the engine is off.

Using those batteries enables NS to leverage an existing commercial product, but the large number needed to run a locomotive poses technical challenges. The 1,080 batteries will be arranged in 20 parallel strings, with 54 batteries connected in each string. An issue is the possibility of the high-voltage battery bank overheating during charging and discharging, causing a fire. Penn State researchers are running lab tests on the batteries to ensure the locomotive can be operated safely.

The four-axle prototype, under construction at NS’ Juniata Locomotive Shop in Altoona, Pa., is expected to be rolled out in June. Leading the construction and engineering team at Juniata is **Tim Wiedemer**, senior general foreman insourcing, and **Joe Richardella**, system manager locomotive sales and marketing. **Gary Fischer** is NS’ lead electrician.

When completed, the locomotive will undergo operational tests at the Juniata shop, moving other locomotives around for servicing. If successful, more testing will follow at Rose Yard in Altoona, where it would help “switch” rail cars into trains to serve customers.

No one knows for sure how the project will fare, but there’s lots of anticipation.

“Everybody to a person is excited,” Barbee said. “This project has consumed the last two years of my working life. I’m optimistic.” ■ BizNS

Coal: a vital resource in sustainability

NS supports clean-coal research, works with partners to make Congress, the public aware of coal's benefits

As a society, we have to balance our need for electricity, the abundance of coal, and the consequences of burning it. That is the burden, the challenge, and the opportunity of sustainable development.

■ Above right: NS supplies the Keystone Power Plant near Shelocta, Pa., with nearly 3.5 million tons of coal a year. To improve service to the customer, NS invested \$44 million to open a new rail line in 2006 that established direct rail connection to the plant.

In 1970, a day after graduating from high school in Bluefield, W.Va., **Ed Smith** joined Norfolk Southern, running coal trains that provide jobs and a source of electricity for communities across Appalachia.

These days, Smith operates a locomotive known as a "Pokey Pusher" on NS' Pocahontas Division, work that involves pushing trains up steep mountains in West Virginia's coal country. The coal mines and trains have sustained generations in Bluefield, including Smith's father, father-in-law, and many relatives.

"It bought the kitchen table and put the beans on it for my family," Smith said. "That's my life."

As a national debate swirls over the environmental effects of burning coal and other fossil fuels, Smith says he and his neighbors have a personal stake. He can't imagine Congress passing laws to eliminate coal-fired power plants. "You talk about the economy going down," he said. "There's just no way."

For Norfolk Southern, coal is big business. Along with coke and iron ore, coal generates approximately one quarter of the company's annual revenue and is the largest commodity group by revenue. In 2008, NS hauled more than 194 million tons, of which 144.4 million tons was utility coal – enough to power nearly 33 million U.S. homes for a year. NS also delivered coal to U.S. steel makers and industrial users and exported it to such places as Eastern Europe and South America for such uses as making steel for automobiles and construction.

Coal is a critical national resource, providing an affordable domestic source of energy that now supplies around 50 percent of the country's electricity needs. America is the Saudi Arabia of coal, with an estimated 250 billion tons of recoverable reserves, according to the American Coalition for Clean Coal Electricity. That's equal to 800 billion barrels of oil – more than three times Saudi Arabia's proven oil reserves – and enough to meet U.S. electricity needs for more than 200 years.

For all those reasons, NS views coal as a key resource for sustainability. With a long-term view, NS supports research into clean-coal technologies and ways to reclaim mountainside mines for other productive uses. NS also continues to invest in infrastructure and equipment to improve service for coal customers, including an estimated \$270 million in 2008. Working with industry partners, NS is taking the clean-coal message to Congress.

"We want to do everything we can to promote the continued use of coal," said **Danny Smith**, NS' senior vice president properties and energy. "We think it can be done the right way environmentally and in a way that benefits us and the communities we serve."

Sustainable growth and development require a balancing of interests, said **Blair Wimbush**, NS' vice president real estate and corporate sustainability officer.



“It’s important that we focus efforts on cleaner coal while looking at all kinds of alternatives,” Wimbush said. “As a society, we have to balance our need for electricity, the abundance of coal, and the consequences of burning it. That to me is the burden, the challenge, and the opportunity of sustainable development.”

■ Taking clean coal to Capitol Hill

Given the Obama administration’s interest in “green” energy, federal lawmakers are focused on legislation to control or reduce greenhouse gases thought to contribute to global warming. That includes carbon dioxide, or CO₂, a byproduct of burning coal and other fossil fuels.

Eventually, Congress is expected to adopt a carbon tax, a carbon “cap-and-trade” system, or a combination of both. With a tax, companies that emit greenhouse gases would pay a fee on carbon emissions. Under cap-and-trade, the government would limit the carbon emissions of certain business sectors, such as coal-burning utilities, but allow them to exceed the cap by purchasing carbon “credits” from businesses that fall below the legal limits.

NS is taking a two-fold approach on Capitol Hill, said **Bruno Maestri**, NS’ vice president government relations. First, the railroad is working with its coal and electric-utility customers to ensure that legislation does not place undue financial or regulatory hardship on those industries.

“The burden of greenhouse gas emissions should be borne throughout the economy and address all sources of emissions, so that energy prices or supply are not unduly impacted,” Maestri said. “We continue to support funding for clean-coal technology to allow research in the area of carbon capture and storage so that as greenhouse gases are addressed, we preserve a primary role for our most abundant natural resource.”

Second, NS and other Class 1 railroads want Congress to understand that the railroad industry is part of the solution. NS, for example, is investing in locomotive technology to improve fuel efficiency and reduce emissions. With engine upgrades, more than 70 percent of NS’ existing locomotives now meet or exceed U.S. Environmental Protection Agency emission standards, the highest percentage of any Class 1 railroad, said **Don Graab**, assistant vice president mechanical.



The railroad industry is seeking legislation with incentives for companies to ship by rail.

"We're letting policymakers know that rail transportation is the most environmentally friendly way to move cargo," Maestri said. "For each ton of freight moved by rail rather than the highway, you reduce greenhouse gas emissions by two-thirds. That's a great environmental message to buttress the already strong and established economic message."

NS employees can help spread the word. Maestri encourages employees to write members of Congress, informing them that transporting freight by rail is good for the economy and the environment; that the rail industry is a positive factor in the climate debate; and that nothing should be done to unduly hinder coal use and the nation's ability to compete globally.

Two key members of the Obama administration, Energy Secretary Steven Chu and EPA Administrator Lisa Jackson, have expressed support for coal before members of Congress.

In December, the American Coalition for Clean Coal Electricity, or ACCCE, an industry group to which NS belongs, began airing a TV commercial showing then-candidate Obama touting clean coal at a campaign rally in Lebanon, Va.

"We figured out how to put a man on the moon in 10 years," Obama said. "You can't tell me we can't figure out how to burn coal that we mine right here in the United States of America and make it work."

Utilities already are burning coal cleaner. Since 1970, the industry has invested an estimated \$100 billion in research and technology, such as smoke-stack scrubbers in existing coal-fired plants, to reduce emissions. Today, emissions are 77 percent cleaner in terms of emissions per unit of energy produced, said Joe Lucas, senior vice president of communications for ACCCE.

NS provides significant support to educate the public on coal's importance, Lucas said. Eventually, electric-car technology could make coal viable for transportation, a major breakthrough for U.S. energy independence.

"Just like medical technology, clean-coal technology has been evolving over time," Lucas said. "The significant progress over the past 35 years gives you great optimism that government, academics, and private industry working together can break through any of the hurdles that confront us."



■ Coal is unloaded at NS' Lamberts Point transload facility, in photo at far left.

■ An NS train crosses the Ohio River near Wellsville, Ohio, as it heads to Ashtabula to be loaded with iron ore.

■ NS assists sustainability research

In the mountains of Russell County, Va., a clean-coal technology project supported by NS is under way, aiming to demonstrate the feasibility of diverting CO₂ emissions into deep underground coal seams that can't be mined.

The carbon capture-and-storage project draws much of its funding from a U.S. Department of Energy grant. Michael Karmis, a professor of mining and minerals engineering at Virginia Tech and director of the Virginia Center for Coal and Energy Research, is overseeing the project.

Injecting CO₂ under pressure into seams containing coalbed methane could have the secondary benefit of enhancing recovery of methane, a gas contained in such seams in Appalachia. The petroleum industry in Texas has used CO₂ injection for years to enhance oil production, Karmis said.

The Russell County program is part of an 11-state effort called the Southeast Region Carbon Sequestration Project. The project has one large-scale demonstration under way in Mississippi, and the regional goal is to develop and demonstrate commercial-scale capture-and-storage technologies by 2018.

In the Virginia field test, a coalbed methane production well donated by CNX Gas Corp. is serving as a CO₂ injection well. NS and other private corporations are providing financial support under a cost-share agreement required to obtain DOE funding.

"Without the support of companies such as Norfolk Southern, it would be impossible, really, to get money from the DOE for any kind of meaningful research," Karmis said.

Without the support of companies such as Norfolk Southern, it would be impossible to get money from the DOE for any kind of meaningful research.

We've always prided ourselves on being good stewards of the property and making sure we have beneficial uses for the land after mining.



Many mainstream environmental groups, such as the Natural Resources Defense Council, support clean-coal research, in particular carbon capture and storage, Karmis said. What the research community needs is more private and state funding to match the DOE dollars, he added. "I think this is an important area for Norfolk Southern, the coal industry and power utilities as well," he said. "This is a project that has the long-term potential to sustain the coal industry in Appalachia."



To address the effects of coal mining, NS since the early 1980s has supported the Powell River Project, a research and education program run by Virginia Tech in southwestern Virginia. The project focuses on techniques to convert former coal mines into other beneficial uses.

Several years ago, the project's research into replanting forests on old mines led to industrywide improvements and changes in federal policy on land reclamation practices, said project director Carl Zipper, a Virginia Tech associate professor of environmental science. Since trees soak up carbon dioxide, planting forests on former mines near coal-fired power plants can mitigate the release of CO₂, he added.

From 1989 through 2008, NS has contributed \$335,000 to the project, said **Deborah Wyld**, director NS Foundation. Pocahontas Land Corp., a wholly owned NS subsidiary, has provided land for research experiments.

"The commitment of financial supporters such as Norfolk Southern has helped make it possible for our researchers to take a longer-term view of the problems associated with reclamation," Zipper said. "It's helped make the project successful."

Pocahontas Land owns more than a million acres of coal property in Virginia, West Virginia, and Kentucky, and leases underground mineral rights to mining companies. Working with local communities, Pocahontas has converted former coal mines to other productive uses. In Mingo County, W.Va., NS owns part of a golf course built on a reclaimed coal mine. In eastern Kentucky, an airport, business park, and prison complex were built on former mines.

"We've always prided ourselves on being good stewards of the property and making sure we have beneficial uses for the land after mining," said Danny Smith, who also is president of Pocahontas Land.

■ In eastern Kentucky, Pocahontas Land, an NS subsidiary, has donated former mining lands for use as a business park and airport, working alongside partners such as the former Rebel Coal Co., which created this pond, stocked with bass and bluegill, for freshwater storage and wildlife enhancement.

■ In Mingo County, W.Va., NS partnered with the community to help develop the Twisted Gun Golf Club on the site of a former coal mine. NS has one-third ownership of the course.

■ Norfolk Southern invests for the future

Over the past decade, NS has made substantial investments to improve service to coal customers and reduce long-term operating expenses, said **Alan Shaw**, group vice president coal transportation and resources. “Our focus on service and technology is to make Norfolk Southern

a better long-term company, and that folds up into sustainability,” he said.

Last year, NS hauled record tonnages of coal, made possible partly by the company’s 2006 decision to begin replacing an aging fleet of coal cars with new railcars capable of handling 10 percent more. As a result, NS doesn’t need to buy as many railcars or run as many coal trains. That translates into less fuel used, fewer emissions, and cost savings, Shaw said.

“With the large volume of coal we run, even a small percentage of improvement can lead to great dollar savings,” he said.

The new railcars are the first coal cars built with a composite material that combines three metals, resulting in cars that are lightweight like aluminum but have the strength of stainless steel, Shaw said.

In other measures, NS in 2007 began buying distributed-power locomotives that have improved the speed and consistency of coal trains. Some NS coal trains now are equipped with electronically controlled pneumatic brakes designed to shorten stopping distances and improve safety and transit times. NS partnered with the Federal Railroad Administration, General Electric, and New York Air Brake on that technology initiative.

To bolster operations at coal transload facilities, NS invested in a bulk-rail inventory management system, a computer-based program that gives the railroad and customers better visibility over the coal-shipping pipeline. The system has reduced the dwell time of coal cars at NS’ Lamberts Point transload facility by approximately four and a half days.

With improvements in coal delivery and advances in clean-coal technology, NS engineers and conductors expect coal will continue to support their families and communities for decades to come.

Willie Perry, a 35-year NS employee, works as a train conductor on the Pocahontas Division’s main line between Bluefield and Williamson, W.Va. Perry said he takes pride in delivering a product used to forge steel into automobiles and to generate electricity that powers America.

“At the end of the day, when I walk into my home and click on the light switch,” Perry said, “I know that’s something I had a part in.” ■ BizNS



■ NS conductor Willie Perry works on coal trains that run on the Pocahontas Division’s main line between Bluefield and Williamson, W.Va.

I think Norfolk Southern gets it. It's right environmentally and socially to take this on. If you do these things right and smart, the world's going to see it, and it's going to be a positive payoff.



Norfolk Southern's commitment to sustainability—good for business, creates value

■ Above: A Norfolk Southern double-stack intermodal train runs along I-81 in Virginia. The route is part of NS' Crescent Corridor, a public-private partnership that will help alleviate highway congestion, conserve fuel, and reduce emissions.

■ Right: Norfolk Southern's Green Machine carbon footprint analyzer helps intermodal customers calculate their emissions savings if they convert truck shipments to rail. The Green Machine is accessible through NS' Web site, www.nscorp.com.

Norfolk Southern's focus on sustainability is viewed in business and investor sectors as good management that will help create long-term value for the railroad.

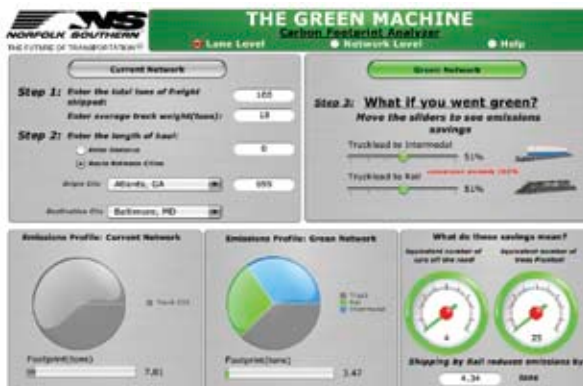
The aim is to increase profitability while taking steps to reduce the company's environmental impact and to build stronger relationships with the communities the railroad serves.

Last year, NS made a significant public statement when it joined 36 other large American corporations in an effort known as S.E.E. Change. The sustainable growth initiative, run by the Washington-based Business Roundtable, shows how business and economic growth are compatible with business practices that are good for the environment and society.

"It's not sustainable if it's not financially smart for the company, too," said Marian Hopkins, Business Roundtable's senior director of public policy.

NS is the only railroad in the initiative, which includes Proctor & Gamble, DuPont, Xerox Corp., Coca-Cola, Weyerhaeuser, Office Depot, Caterpillar Inc., and other companies. Among things the companies are doing, P&G has developed an environmentally friendly soap that filters out in river water and is used by many Third World countries. Coca-Cola has committed to recycle at least as much water and plastic as it consumes in making its soft drink products.

NS, as a wholesale transporter of freight, has focused on reducing fuel use, energy consumption, and highway congestion — measures that lower greenhouse gas emissions and improve communities' quality of life.



NS participates as well in the U.S. Environmental Protection Agency’s Smartway Transport Program, which targets fuel economy and reducing emissions. The company also has turned to technology, such as computer-assisted train operations and techniques to reduce engine-idling time.

Besides being good for the environment, NS’ sustainability practices can cut expenses. In 2008, NS’ overall operating ratio – the percentage of operating revenue needed to cover operating expenses – was a record low 71.1 percent, an improvement of 1.5 percentage points over 2007. In the fourth quarter of 2008, the operating ratio improved by a hefty 4.5 percentage points to 67.5 percent, a quarterly record low. Consistently, NS achieves the lowest operating ratio of any U.S. Class 1 railroad.

“I think Norfolk Southern gets it,” Roundtable’s Hopkins said. “It’s right environmentally and socially to take this on. If you do these things right and smart, the world’s going to see it, and it’s going to be a positive payoff.”

By agreeing to participate in S.E.E. Change, NS must maintain a corporatwide commitment to reduce its environmental footprint, continue operating as a profitable enterprise, and contribute to society.

The social benefits can include maintaining a focus on safety, providing good jobs, encouraging employees to volunteer in their communities, and donating dollars to worthy causes.

“These are things we’ve long believed in and practiced, but this was an additional public affirmation of our role in that,” said **Blair Wimbush**, NS’ vice president real estate and corporate sustainability officer. “That was important to us.”

NS’ Web site “footprints,” unveiled last year as part of the railroad’s sustainability efforts, impresses Carol Lee Rawn, senior manager auto program for Ceres, a nonprofit network of investors, environmental organizations, and public interest groups headquartered in Boston. Ceres wants companies to address such issues as climate change and greenhouse gas emissions.

“There’s certainly a lot of good work that Norfolk Southern has going on,” Rawn said, “and I think it’s great the company is focusing on those issues.”

A growing number of “social” investors are making investment decisions based on a company’s efforts to be more environmentally and socially responsible, Rawn said. Ceres, for instance, coordinates the Investor Network on Climate Change, made up of institutional investors and financial institutions that currently manage around \$7 trillion of investor assets, she said.

“The social investor community is not the overwhelming majority of investors, but it’s a growing sector,” Rawn said. “It’s not small change.”

NS is getting more inquiries from research firms that provide information to investors interested in sustainability issues, said **Kevin Andris**, NS general attorney. Last year, Andris was tapped to coordinate the railroad’s response to surveys querying NS about its sustainability practices.

“Our coming out last year with a sustainability report has been very useful,” Andris said. “It has gone a long way toward putting out into the public what we’re doing to be sustainable.”

Trying to translate NS’ sustainability efforts into investment dollars is difficult, said **Leanne Marilley**, NS director investor relations. However, efforts to reduce fuel and energy consumption should help improve the operating ratio and profitability, both key company goals, she said.

“Norfolk Southern is widely regarded as a well-managed and reputable company,” Marilley said. “Anything we can do to leave a green footprint on the environment only enhances the attractiveness of an investment in our company.” ■ BizNS

Track 2012—Year One

How are we doing?



Norfolk Southern has raised the bar in its efforts to be the leader in the transportation industry. The company initiated in 2008 a five-year plan known as Track 2012. The plan sets aggressive goals and objectives to position NS for success.

Now that we're one year into the process, how are we doing?

"We have a good news story to tell about Track 2012," said **Deb Butler**, executive vice president planning and chief information officer. "We have made significant progress in defining goals and objectives and identifying those projects that will take NS to the highest levels in all-around performance."

Butler said a steering committee of senior managers focused on six areas that will most benefit the company. They are safety, revenue growth, service improvement, fuel efficiency, asset utilization, and work force productivity.

The committee asked all departments for project ideas in those key areas.

"We had hundreds of ideas sent to us," Butler said. "Each was evaluated, and we made decisions about which projects would provide the most benefits."

Some of the projects submitted could be handled at the local level without Track 2012 sponsorship. Departments were encouraged to complete them on their own. Others would require interdepartmental cooperation. The committee selected critical initiatives within the six focus areas.

Butler said by including these initiatives in the company's strategic plan and as part of Track 2012, the company is able to allocate appropriate resources for them and fast-track them if warranted. It also provides the opportunity to monitor progress as the projects move forward.

The projects are reviewed monthly by the steering committee.

Behind the scenes, **Annie Adams**, director strategic programs, and **Kimberly Thompson**, manager strategic programs, keep projects moving and work to help NS employees better understand how they can contribute to the success of Track 2012.

Another program encourages all employees to submit ideas for improving their workplaces. Called innovatioNS, the initiative includes an interactive Web site that can be accessed via the Employee Resource Center or the Internet. At the site, employees can submit their ideas for consideration, view and rate ideas submitted by co-workers, and offer possible solutions to posted business challenges.

"Now, more than ever, it is important for all our employees to look for ways to be more efficient," said **Justin Meko**, manager innovation, who facilitates the innovatioNS program.

Butler said the recession has hampered some projections such as revenue goals, but the company is moving ahead on critical initiatives and goals set for 2012.

"We see the investment in these projects as more important than ever so we will be positioned to be the leader when economic conditions improve," Butler said. "We also know that the knowledge and expertise of NS people will help us be the leader in transportation. We learned in the 2001 recession that we could be successful if we spent the lean times preparing for the better times. Track 2012 gives us the vehicle to do that by providing a clear path and a timeline for completion." ■ BizNS

We see the investment in these projects as more important than ever so we will be positioned to be the leader when economic conditions improve. We also know that the knowledge and expertise of NS people will help us be the leader in transportation.

■ Clockwise from bottom: Annie Adams, director strategic programs; Kimberly Thompson, manager strategic programs, and Justin Meko, manager innovation, keep Track 2012 projects moving.



New technologies provide new possibilities:

Managing assets and conserving fuel are goals For Track 2012

■ Above left: Coleman Lawrence, senior director operations and locomotive control, is leading a team to improve the Thoroughbred Locomotive System

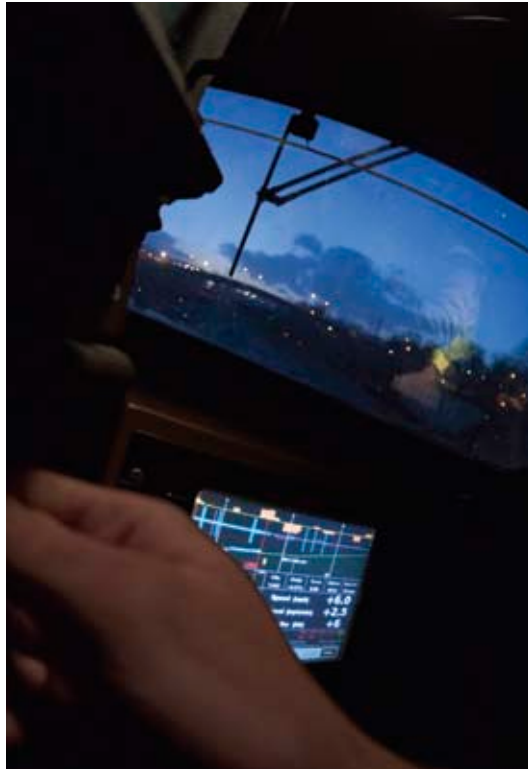
■ Above right: Locomotive engineers receive train-handling instructions for the optimum run to conserve fuel on computer screens in locomotive cabs through LEADER.

Making sure the right locomotive is on the right train at the right time takes a great deal of coordination across the system. It is important, because different locomotives in the Norfolk Southern fleet have different capabilities. Matching the right power to the right train ensures that the power is adequate for the type of train, the geographic area, and the terrain it must travel. It also helps conserve fuel. To help achieve the right match every time, NS is modernizing its 10-year-old computerized Thoroughbred Locomotive System and giving the improved system a new name, Empower.

The improved system, developed by the company's locomotive control team and people from information technology, will tie terminal locomotive plans to NS' Thoroughbred Operating Plan and facilitate matching available locomotive power to demand.

"TLS has helped us better manage our locomotive fleet and provide good service to our customers," said **Coleman Lawrence**, senior director operations and locomotive control. "It has served as a strong foundation for our asset management plans, and now we are making it better."

Lawrence said Empower will be an enhanced locomotive management system that will be more user-friendly and provide more real-time information about locomotive power availability to support NS' Track 2012 objectives.



LEADER is all about fuel conservation. We burn nearly 500 million gallons of fuel annually, so every percent we can reduce consumption is about 5 million gallons.

Another tool being developed to enhance NS' effectiveness in locomotive management is the Locomotive Assignment and Routing System. LARS uses TOP forecasts and actual operating history to provide decision support for sizing the locomotive fleet for maximum service delivery and productivity. In its early phase now, the system provides a static model based on the business forecast and projected TOP plan. Subsequent phases will apply the model and project locomotive surpluses and deficits across the system. It ultimately will assist in determining in real time which locomotives to assign to which trains.

Lawrence said the company is making incremental improvements to LARS.

"We will continue developing LARS, working toward a real-time model to support quick and effective decision-making in the midst of changing conditions. That will help us manage these valuable assets in the best way possible to serve our customers," Lawrence said. "As we work through the next phases of the project, we'll have more fluid and efficient interface of Empower, with features such as drag-and-drop capability to assign power."

Keeping an eye on fuel consumption also is essential to NS' success. One way the company is doing that is by installing a computer system on its locomotives called Locomotive Engineer Assist Display and Event Recorder, or LEADER. Equipped with a computerized track profile that includes such things as grade, curvature, and track speed, and using satellite-based GPS coordinates to pinpoint location, the system is designed to provide engineers with train-handling instructions for maximum fuel efficiency. The system generates instructions, such as optimal speed, that engineers can use in handling the train to achieve maximum fuel savings.

"LEADER is all about fuel conservation," Lawrence said. "We burn nearly 500 million gallons of fuel annually, so every percent we can reduce consumption is about 5 million gallons. At today's cost of fuel, that adds up to a lot of value, plus it makes Norfolk Southern even better from a sustainability perspective."

"Using new technologies to better manage our assets to operate more safely and more efficiently will position us to continue to be the leader in the transportation industry," Lawrence said. "We will continue working on newer and better ways to benefit our customers and our shareholders." ■ BizNS



Track 2012 projects under way

Here is a brief overview of the projects and initiatives that the Track 2012 Steering Committee has identified as critical to achieving Norfolk Southern's goals.

SAFETY

Optimized Train Control

OTC is NS' version of positive train control. It is designed to minimize the potential for train-to-train collisions, enforce speed limits, and protect roadway workers. The system monitors operating conditions, including switch positions, speed restrictions, and who is authorized to be on the track, and it provides warnings of changing conditions. If action is not taken to bring the train into safe operating conditions, the system will apply the brakes and bring the train to a safe stop.

Automated Issuance of Track Time

This project is an extension of OTC that allows roadway workers to electronically request, receive, and release track time work limits. This will improve productivity as well as safety.

REVENUE GROWTH

Intermodal and Automotive

Highway truck conversion is a key growth area for the intermodal and automotive group. One opportunity for modal conversion is the short-haul truck market (less than 500 miles) within our network. Two large public-private partnerships – Heartland Corridor and Crescent Corridor – will provide the opportunity to grow NS' business and benefit the environment.

Industrial Products

Four key growth opportunities exist within the Industrial Products group:

- AgriFuels is the NS brand created to develop and manage the fast-paced growth of farm-related commodities that are tied to our country's focus on increasing the use of bio-fuels as part of the overall U.S. strategy on energy independence.
- EnvirOstone™ service is for transporting high-calcium limestone (scrubber stone) mandated by the Clean Air Act to reduce sulfur dioxide emissions in coal-fired power plants.
- The coiled-steel market is poised for growth as NS is the preferred provider of rail transportation services to and from a new ThyssenKrupp steel and stainless facility in Alabama.
- Transportation of construction and demolition debris and municipal solid waste is experiencing significant growth as existing landfill infrastructure, primarily in the Northeast, reaches capacity. Norfolk Southern is focusing on continued development of waste transfer stations and locating landfills on our network.

Coal Business Group

Growth trends in coal center on sourcing shifts, market share gains, and an increase of new business. As utilities install scrubbers for sulfur dioxide to address environmental concerns and emissions regulations, they are able to accept coal with higher

sulfur content, thus shifting market sourcing from traditional low-sulfur regions to higher-sulfur regions. The group also is examining all competitive business to determine markets in which NS' share can be increased, and continually seeking opportunities to capture any new business in our service area – for example, new power plants.

SERVICE IMPROVEMENT

Unified Train Control System

UTCS is NS' next-generation dispatching system. Constantly looking up to eight hours into the future, the UTCS movement planner will formulate a comprehensive movement plan by minimizing network congestion and delay and maximizing schedule adherence from a system perspective. UTCS also provides robust disaster recovery capability.

Tactical Yard Planner

Tactical Yard Planner is a new tool NS is developing internally that can be used to make more effective decisions based on current conditions in yards. The system will help minimize dwell time and improve connection performance and train performance.

ASSET UTILIZATION

Process Control Implementation

This project involves implementing state-of-the-art process control systems to automate our remaining manual hump yards and upgrade others that are using older technology. Process control systems manage the overall classification of railcars by controlling car speed, car spacing, and switch positions to ensure that cars are routed to the appropriate classification track in a safe and efficient manner.

Thoroughbred Locomotive System /

Locomotive Assignment and Routing System

TLS/LARS is the tool used to manage our locomotive fleet and make assignments to trains. NS can use TLS/LARS to determine the optimal size of our locomotive fleet.



■ **Top:** A westbound train approaches Roderfeld Tunnel on the Heartland Corridor, a project that will allow double-stack intermodal traffic for the first time. Truck-to-rail conversion is the goal of NS' intermodal group.

■ **Center:** The Thoroughbred Locomotive System and Locomotive Assignment and Routing System will maximize use of NS' locomotive fleet. This train travels through Virginia's Natural Tunnel State Park.

■ **Bottom:** Conductor Ted Weiscope operates a locomotive with remote control technology in Decatur, Ill.

ABC Next Generation

The Algorithmic Blocking and Classification system is the classification model that determines the blocks in which freight cars travel and is responsible for the safe and efficient routing of nearly 190,000 cars through our network on a daily basis. ABC Next Generation is a more advanced car routing algorithm that will consider train and yard capacity.

Geographic InFormation System

This project entails the creation of a comprehensive database that will have information about the location of every siding, switch, signal, bridge, tunnel, crossing, and other infrastructure on our system.

FUEL EFFICIENCY

Top-of-Rail Friction Modification

These systems apply lubricant directly to the top of both rails to lower the wheel-to-rail friction of the cars. This reduces energy needed to pull the train and results in less wear and tear on track and car wheels.

Wireless Event Recorder Information System

WERIS is a system that allows information from a locomotive's event recorder – its black box – to be downloaded at a wireless access point. This data can be analyzed to determine where crews are doing well at conserving fuel and where there is room for improvement.

Locomotive Engineer Assist Display and Event Recorder

LEADER helps our engineers make better train handling decisions by providing real-time coaching on performance against an optimal "golden run" for a route. LEADER monitors the train's location, track topology, speed, acceleration, and in-train forces and recommends optimal operations for throttling, braking, and minimum and maximum speeds.

WORK FORCE PRODUCTIVITY

Remote Control Locomotive

Remote control technology enables an operator on the ground to direct the locomotive's operation by radio signals to a computer onboard the locomotive.

Productivity of Maintenance Activities

This project is an ongoing effort, and engineering is working closely with dispatchers and others in transportation to improve communication and planning in order to provide large, uninterrupted blocks of time for the work gangs in maintenance of way. The delays that these gangs experience cost NS more than \$14 million per year. ■ BizNS

NS employees spread the word about innovative thinking

Part of Norfolk Southern's strategy to meet its Track 2012 goals is to encourage employees to find creative ways to solve problems. The company's innovatioNS process is designed to tap into new ideas.

"We know that NS employees have the expertise, experience, and creativity to help NS reach the aggressive goals set under Track 2012," said **Justin Meko**, manager innovation. Meko works with the innovatioNS Council "to develop ways to tap into that creative energy to generate lots of great ideas."

A Web site, accessible through the employee resource center, offers information about innovatioNS and provides a channel for submitting ideas as well as rating selected ideas and answering a challenge. The site was recently updated to include the interactive components. Work to enhance the site was done by **Logan Moore**, director business consulting; **Dennis Wulff**, senior designer; **Tracy Wadsworth**, programmer; and **Giridhar Challa**, consultant.

Moore said the team wanted to provide a site that is easy to use, manage, and maintain. It uses an existing technology and security platform. The

interactive sections were patterned after other popular Web sites such as Amazon and eBay so users easily would understand how they work. The project went from concept to a production-ready application within six weeks.

Some NS employees are trying other approaches to get the word out.

With nearly 5,500 employees in the Mechanical Department, **Don Graab**, assistant vice president mechanical, knows it can be a challenge to make sure they all are aware of the latest news about NS' business initiatives.

"**Tim Heilig**, vice president mechanical, wants to make sure our mechanical department employees are up to date on the company's efforts to meet our Track 2012 goals," Graab said. "He also wants them to know how important their participation is in meeting those goals."



■ Top: Don Graab, assistant vice president mechanical, took the lead to help inspire innovative ideas from mechanical department employees.

■ Left: Logan Moore, director business consulting, Giridhar Challa, consultant, Dennis Wulff, senior designer, and Tracy Wadsworth, programmer; enhanced the innovatioNS Web site.

Many times, the people who deal with an issue every day are the very people who have the solution.



■ Jason Pettway, director IT, and MaryBess Smith, director audits, serve on the innovatioNS Council.

■ Employees receive postcards such as the one below to inspire innovative ideas.

Graab worked with **Joe Pedulla**, technical writer, to develop a presentation that could be made at every mechanical department facility.

“We wanted to have a consistent, customized presentation, so that anyone in the field could give it and not have to recreate anything,” Graab said.

The presentation explores NS’ history of innovative thinking and developing tools and other items in-house. It also serves to inspire NS employees to continue that tradition.

“We have incredibly talented people in the mechanical department who want us to be the best, and we want them to know that their ideas to improve what we do are always welcome,” Graab said.

MaryBess Smith, director audits, and **Jason Pettway**, director IT, took another approach to engage more people in the process.

Smith and Pettway, both InnovatioNS Council members, spent time in the field talking to NS employees and listening to their ideas.

“We started a few years ago and spent time at Linwood, N.C., Juniata, Pa., Birmingham, Ala., and Roanoke talking to people there about how we could improve things,” Smith said. “Many times, the people who deal with an issue every day are the very people who have the solution. Working

together at the local level can provide quick and permanent solutions.”

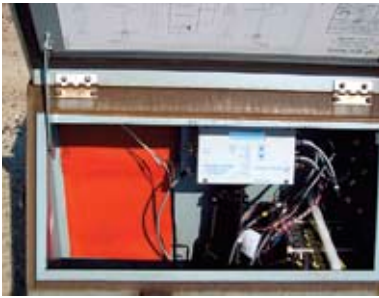
Smith said they found some groups already were working locally, and the council was looking for a way to harness all that energy. They were able to do that through the innovatioNS process. Meko said the council is always looking for ways to improve their process as well. “I encourage everyone to look around their workplace and seek out opportunities to make positive changes to move us closer to our Track 2012 goals,” Meko said. ■ BizNS





Teamwork, innovation earn SPIRIT award in Elkhart

On some winter days, temperatures can be downright frigid in Elkhart, Ind. That can cause problems with getting the right car on the right train.



Elkhart is a hump yard where cars are switched using gravity. They are pushed to the top of a slight incline, or “hump,” where they are uncoupled. They then roll down the other side of the hump onto the appropriate track where a new train is assembled.

Car movement is facilitated by greasers along the rails that keep cars moving and reduce wear and tear on car wheels. The cold temperatures in Elkhart were making the grease thicken and not spread properly on the rail, hampering car movements along the tracks. **Terry Chapman**, terminal superintendent, went to work to resolve the problem.

“If the greasers aren’t able to get the right amount of lubrication on the rail, it can result in cars stalling before they reach their assigned track,” Chapman said. “That slows down our progress in serving our customers and sometimes can result in a derailment. It also increases wear and tear on the car wheels and the track.”

Chapman said that because of the number of stalled cars, extra train crews and locomotives frequently had to be called just to keep the cars in the clear. Chapman, **Ed Singleton**, lubricator maintainer, and **Donnie Haynes**, communications and signals technician, developed self-adhesive blanket heaters to keep the grease at the proper temperature. The heaters have made operations run more smoothly.

“The consensus is that by installing the heaters, the number of stalls has been reduced between 70 and 80 percent,” Chapman said. “This has made the terminal more efficient. This winter when the weather was particularly brutal, we were able to keep the cars moving with relatively little difficulty.”

For their efforts, the Elkhart team earned a SPIRIT award for innovation in 2008.

■ BizNS

They developed self-adhesive blanket heaters to keep the grease at the proper temperature.

■ Top: Extremely cold temperatures in Elkhart hampered humping operations when greasers were not functioning as well as they could.

■ Bottom: Inside the greasers at Elkhart hump yard, red self-adhesive blanket heaters were wired into them to keep cars moving in extremely cold weather.



ON THE COVER:

Longleaf pine seedlings such as this one thrive at Norfolk Southern's Brosnan Forest, located in Dorchester, S.C. The company's donation of a conservation easement protects more than 12,000 acres of the Forest from development, preserving the longleaf pine habitat for an endangered woodpecker species.

BizNS presents an in-depth look at the challenges and opportunities Norfolk Southern faces. It is produced by the Corporate Communications Department.

Andrea Just
EDITOR

Jon Glass
CONTRIBUTING WRITER

Frank Wright
DESIGN MANAGER

Patty McDonald
DESIGNER

CONTACT US:
Three Commercial Place
Norfolk, Va. 23510

e-mail:
bizns@nscorp.com

13.0309.108.48K



NS is part of history for presidential train

On Jan. 17, then President-elect Barack Obama traveled by special train on Amtrak's Northeast Corridor from Philadelphia to Washington to kick off inaugural events. The 137-mile route paralleled a similar journey taken by Abraham Lincoln in 1861 and passed several Norfolk Southern facilities. To help ensure safety and security of the train, the public, and NS property, more than 40 NS police agents were stationed at critical locations along the route in Pennsylvania, Delaware, and Maryland.

"With all of the federal, state, and local law enforcement agencies involved in this event, it was a unique experience, to say the least," said **Tony Dragani**, special agent in charge for the Philadelphia area and lead coordinator for NS.

"The cooperation among the agencies was outstanding. Credit NS supervisory special agents **Steve Shaw**, based in Morrisville, Pa., and **Wes Poole**, based in Baltimore, for developing a comprehensive security plan and strategically deploying company personnel and resources."

Although most of the NS agents came from the Harrisburg Division, NS police from Atlanta, Decatur, Ill., and Elkhart, Ind., supplemented the local forces. Staff members from NS' Environmental Protection Department in Roanoke also assisted.

Dave Schoendorfer, manager hazardous materials, and **Don Crain**, assistant division superintendent Harrisburg, developed a plan to minimize risk. The Harrisburg Division and the Delaware Business Unit worked with Centralized Yard Operations in Atlanta to locate and move any rail cars containing hazardous materials in yards and sidings adjacent to the Northeast Corridor.

"Our customers recognized the magnitude of Mr. Obama's train trip," said **Brad Fitzgerald**, CYO director. "Their cooperation in adjusting their schedules to move hazmat cars to secure locations was outstanding."

Al Shackelford, NS police director, complimented his team. "I want to thank each of you," he said, "for your participation in the special protection detail for the president-elect on Jan. 17. It is not that often that so many of our officers come together for such an assignment; especially one that covered 137 miles. I have heard the word 'unprecedented' used several times by agencies such as the Federal Railroad Administration and Transportation Security Administration. I, too, have to say the job that Norfolk Southern personnel did was unprecedented in that the cooperation between departments was flawless." ■ BizNS