

WRITTEN TESTIMONY
BY CONGRESSMAN KEVIN CRAMER, NORTH DAKOTA (AL)
TO THE
HOUSE COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY
APRIL 11, 2013

Chairman Upton, Ranking Member Waxman, Chairmen Shimkus and Gingrey, Ranking Member Tonko, and members of the Subcommittee, thank you for this opportunity to provide testimony regarding this very important topic.

With our seven coal-fired electricity generation plants, the issue of disposal and beneficial use of coal combustion residuals (CCR) is imperative to my state's electricity ratepayers. North Dakota energy stakeholders have the capability to beneficially use 40% of CCRs, utilizing its unique characteristics for such purposes as cement replacement, road base/sub-base applications, sand blasting media, roofing shingles, winter ice control on roads, as well as to offset such materials as sand and gravel in constructions projects. High profile projects, such as the I-35 bridge reconstruction in Minneapolis and concrete footings for large wind farms, are just two examples of the benefits CCRs can play in rebuilding, and augmenting, our nation's infrastructure.

For those residuals that are unable to be utilized, the remainder is disposed in a safe and prudent manner, now solely regulated by the North Dakota Department of Health (NDDOH), Department of Waste Management. NDDOH effectively works with

the energy industry to investigate and solve disposal issues, as well as develop long-term solutions.

The designation of CCRs as hazardous waste would not only result in significant cost ramifications to the already overburdened electricity consumer, but would promote a regulation in defiance of common sense, thereby undermining its credibility and overall effectiveness.

Although the North Dakota Solid Waste Management Rules for coal combustion waste disposal follow the general model of the Resource Conservation Recovery Act Subtitle D criteria for municipal waste, the specific requirements are tailored for North Dakota's geology and CCRs. All standards proposed by this legislation are exceeded by current coal ash regulation by the NDDOH.

The Coal Ash Recycling and Oversight Act of 2013, and its amendments to the Solid Waste Disposal Act, is a superior alternative to the Environmental Protection Agency's (EPA) recommendations.

Attached for your consideration is House concurrent Resolution No. 3026 from the North Dakota Legislature, urging the EPA to refrain from enacting regulations that regulate coal combustion residuals as hazardous wastes and allowing the NDDOH to continue to regulate CCRs under its current regulatory structure. Also included is a pamphlet published by one of my state's energy stakeholders which explains the beneficial uses of CCRs.

**Sixty-third Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 8, 2013**

HOUSE CONCURRENT RESOLUTION NO. 3026
(Representatives Belter, Boe, Delmore, Delzer, Headland, Kreidt, Porter)
(Senators Carlisle, Dotzenrod, Lyson, Unruh, Wardner)

A concurrent resolution urging the United States Environmental Protection Agency to refrain from enacting regulations that place unreasonable economic burden on electric consumers living in the Northern Great Plains.

WHEREAS, over the course of the 2011-13 interim the United States Environmental Protection Agency considered whether to regulate coal combustion residuals as hazardous or nonhazardous wastes under the Resource Conservation and Recovery Act; and

WHEREAS, the North Dakota Congressional Delegation in conjunction with members of other delegations across the region introduced legislation clarifying that coal combustion residuals should be regulated by states and not be deemed hazardous wastes; and

WHEREAS, in March 2012 the United States Environmental Protection Agency released a decision on the federal regional haze program approving the State Department of Health's decision to require selective noncatalytic reduction technology at the Milton R. Young Station and the Leland Olds Station, but requiring the installation of other technologies for the Antelope Valley Station and the Coal Creek Station resulting in a federal implementation plan for the two units; and

WHEREAS, in December 2012 the United States Environmental Protection Agency issued a notice that it intended to reopen the North Dakota regional haze issue in response to a petition filed by a number of environmental groups; and

WHEREAS, in April 2012 the United States Environmental Protection Agency proposed new carbon dioxide emission standards requiring new coal-based electric generation units to meet an emission standard based on the carbon dioxide emissions of a combined cycle natural gas plant; and

WHEREAS, new lignite-based electric generation units will not be able to meet the proposed carbon dioxide emission standards until carbon dioxide capture technology is developed for widespread, commercial installation; and

WHEREAS, the United States Environmental Protection Agency stated in the April 2012 proposed rule that no notable carbon dioxide or other pollutant emissions changes or monetized benefits were anticipated with the new carbon dioxide emission standards; and

WHEREAS, the North Dakota lignite industry employs thousands of individuals and contributes over \$3.5 billion in business activity in North Dakota each year; and

WHEREAS, if the United States Environmental Protection Agency continues to issue regulations that are not based on sound science and that will have significant impact on consumer electricity costs, the North Dakota lignite industry will struggle to provide low-cost, reliable electricity to the two million consumers served by North Dakota lignite-based generation across the Northern Great Plains; and

WHEREAS, under the present federal regulatory agenda, the state is in danger of losing high-paying jobs related to the lignite industry as well as revenue generated through taxes and business activity;

NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF NORTH DAKOTA, THE SENATE CONCURRING THEREIN:

That the Sixty-third Legislative Assembly urges the United States Environmental Protection Agency to refrain from enacting regulations that regulate coal combustion residuals as hazardous wastes and allow the State Department of Health to continue to regulate coal combustion residuals under its current regulatory structure; and

That the United States Environmental Protection Agency support its March 2012 decision related to the state's regional haze implementation plan and delegate to the state the responsibility for working with the Antelope Valley Station and the Coal Creek Station to achieve the federal implementation plan; and

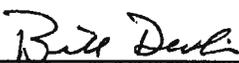
That the United States Environmental Protection Agency refrain from finalizing regulations for carbon dioxide emission standards which require coal to meet an emission standard based on the carbon dioxide emissions of a combined cycle natural gas plant and to refrain from proposing carbon dioxide emissions standards for existing coal-based electric generation units; and

That the Sixty-third Legislative Assembly urges the United States Environmental Protection Agency to work with the state, the North Dakota Congressional Delegation, and the North Dakota lignite industry to design regulatory programs that are based on sound science and that make economic sense for the consumers of North Dakota lignite; and

That the members of the Sixty-third Legislative Assembly support the efforts of the lignite industry to find common sense technology solutions that will facilitate the continuation of lignite-based electric generation; and

That the members of the Sixty-third Legislative Assembly support the efforts of the lignite industry to challenge regulations that will significantly impact the ability of the industry to continue to generate electricity from existing lignite-based plants; and

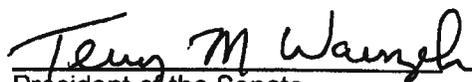
BE IT FURTHER RESOLVED, that the Secretary of State forward copies of this resolution to the President of the United States, the Director of the United States Environmental Protection Agency, each member of the North Dakota Congressional Delegation, the State Department of Health, and the Public Service Commission.



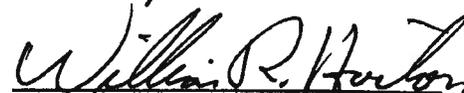
Speaker of the House



Chief Clerk of the House

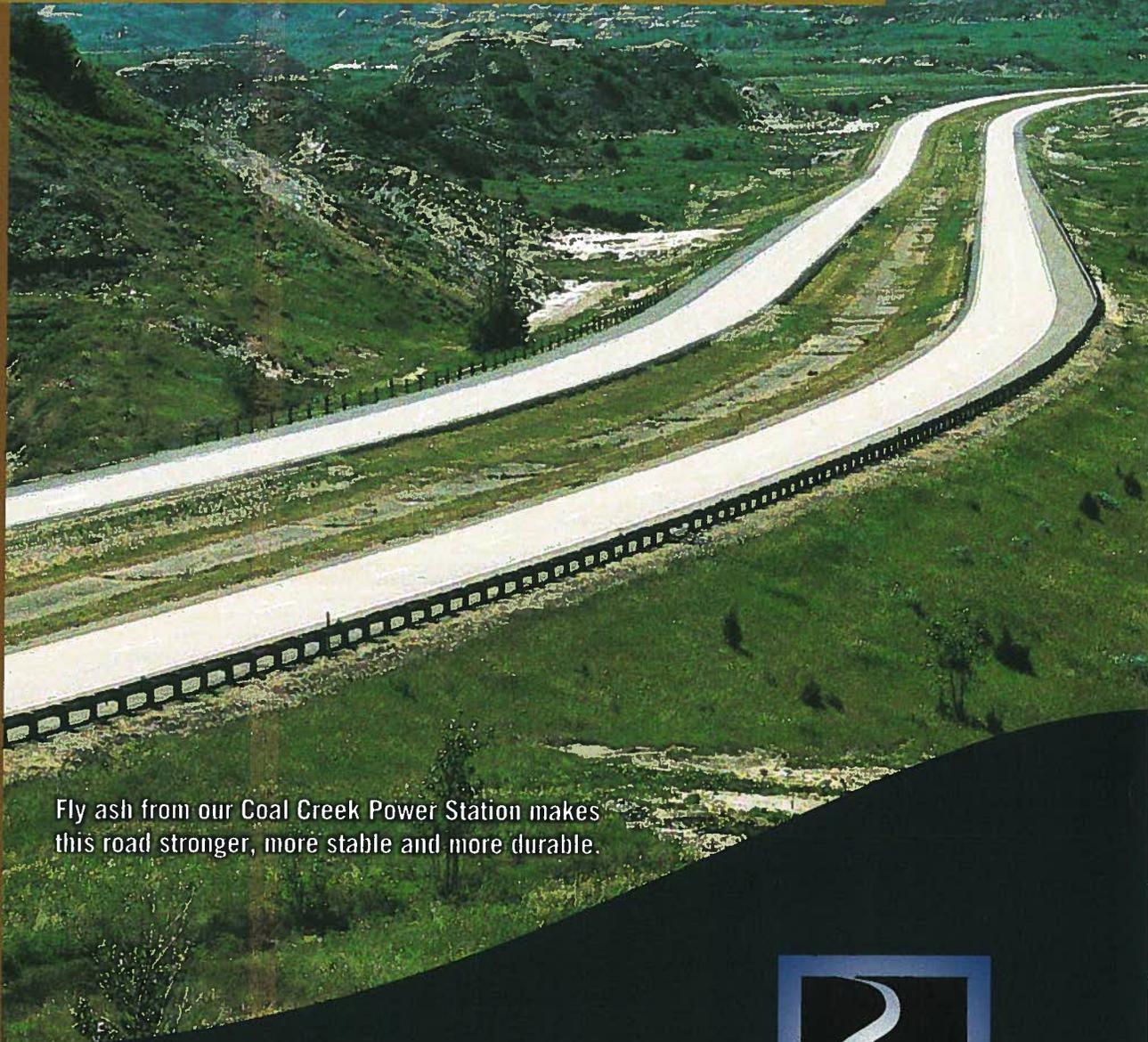


President of the Senate



Secretary of the Senate

Great River Energy,
we're helping to pave
a **strong and stable** future.



Fly ash from our Coal Creek Power Station makes
this road stronger, more stable and more durable.



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Build it better with fly ash

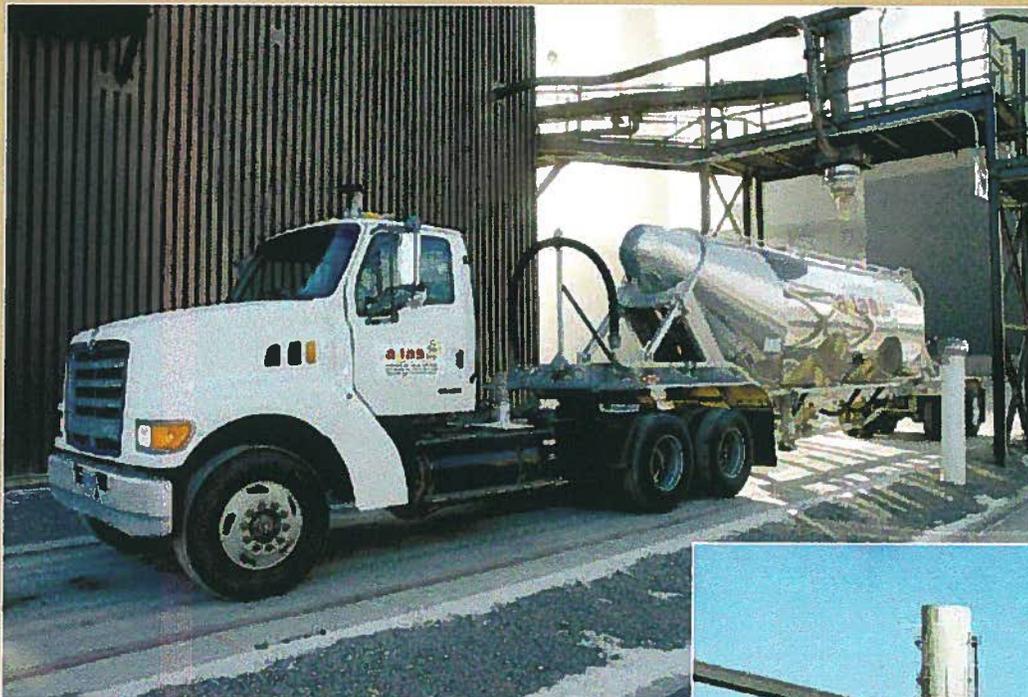
Fly ash is a by-product of generating electricity from coal. It's called fly ash because it could fly out of our power plant stacks. Instead, we collect it. Years ago fly ash ended up in landfills, but we were determined to find ways to use it that were good for our economy and environment. We succeeded. Fly ash is now improving the quality of our environment and contributing to the strength of our economy.

Fly ash doesn't look like typical ash. The particles are small and round, like tiny ball bearings. Add fly ash to concrete, and something amazing happens. The fly ash particles not only fill in tiny spaces in the concrete, they also react with water and other compounds to form a powerful glue. The result is concrete that's stronger and lasts longer.

Adding fly ash to concrete results in:

- Stronger, more durable roads.
- Concrete that's easier to work with due to the "ball-bearing" effect of the ash. It flows better, pumps better and fills forms more completely.
- Reduced bleeding at the edges of pavement.
- Reduced penetration of moisture, so concrete stands up better to rain and snow.
- Greater resistance to deterioration.
- Reduced concrete shrinkage.

Fly ash makes stronger, longer-lasting bridges, roads, sidewalks, curbs, foundations, commercial buildings and even homes. If it's made with concrete, it can be made better with concrete that's been strengthened with fly ash.



Thousands of trucks and railcars utilize the fly ash loading facilities at Coal Creek Station each year.



Fly ash stabilizes soil

Water runoff leads to erosion, and that creates economic and environmental problems for public, commercial and private facilities ranging from roads and sidewalks to parking lots, driveways and feedlots. The use of fly ash soil stabilizers to prevent such challenges have been expensive – until now.

Mixing fly ash with soil and water creates a binding effect. The fly ash acts as a stabilizer that holds the soil together. This creates a firmer foundation and prevents erosion. Because fly ash is much less expensive than other soil stabilizers, the use of fly ash results in reduced construction and maintenance costs due to the improved stability of the underlying soil.



Fly ash is used in soil stabilization projects in the oil fields in western North Dakota.



Marketing fly ash: Good for the environment

Environmental responsibility is one of the foundations of our mission at Great River Energy. Marketing fly ash helps us meet our commitment to the environment in several ways:

- Collecting the ash keeps our air clean and our skies blue.
- Finding innovative uses for the ash relieves the burden on our landfills. Landfill costs are reduced by up to eight dollars for every ton of fly ash that's sold.
- Adding fly ash to the soil strengthens it and also prevents erosion.
- Adding fly ash to concrete in place of cement reduces greenhouse gases like carbon dioxide.

Cement production is energy-intensive and releases greenhouse gases. Each ton of fly ash used in place of cement prevents one ton of greenhouse gas emissions. From 1997 to 2007, use of fly ash prevented three million tons of carbon dioxide emissions.

Environmental groups recognize the benefits of marketing fly ash, and have also recognized Great River Energy for our leadership in this field with prestigious awards, including:

- The U.S. Environmental Protection Agency's Outstanding Achievement Awards:
 - 2006 Overall Achievement Award
 - 2005 Environmental Achievement Award
- The World Environmental Improvement Award, presented by ISG Resources, Inc., for reducing global carbon dioxide emissions through the use of coal combustion products.
- Vision Award from the North Dakota Chamber of Commerce.

Great River Energy is a Champion of EPA's Coal Combustion Products Partnership and is committed to increasing the use of coal combustion products like fly ash. It's good for our environment and economy.



Coal Creek Station generates over 440,000 tons of marketable fly ash each year.

Marketing fly ash: Good for the economy

Marketing fly ash helps our economy grow in several ways:

- Revenues from fly ash sales help keep power costs down.
- Using fly ash in concrete reduces construction costs and prevents delays due to cement shortages.
- Stronger, longer-lasting concrete reduces the cost of rebuilding and repairing roads and bridges.

The market for fly ash has been growing steadily. In 1996, we sold 90,000 tons. Today, we are selling over 440,000 tons a year. Fly ash sales generate over \$2.5 million in revenue to Coal Creek Station each year.

Due to the high demand for our fly ash, Great River Energy is now one of the largest customers of the Dakota Missouri Valley &

Western Railroad. To keep up with demand, along with our partner, Headwaters Resources, we've added a rail silo, truck scales, ash loading facility, shuttle wagons, rail siding, private rail cars and fly ash storage terminals in the Denver and Minneapolis areas.

We've also constructed a storage dome at Coal Creek Station that holds up to 100,000 tons of fly ash. The dome allows us to store ash produced in the winter months to meet the higher demand in the summer construction season. The dome, made of course from concrete that contains fly ash, won the "Excellence in Concrete Award" presented by the North Dakota Ready-Mix & Concrete Products Association.



The fly ash storage dome at Coal Creek Station stores 100,000 tons of fly ash during winter months.

Our fly ash: High quality, high demand

The innovative techniques we employ at our Coal Creek Station, and our high-tech collection system, produce a fly ash product that's one of the best in the country. Customers even ask for it by name:

"Of all the fly ash we sell, the only product known directly by name by our customers is Coal Creek Station fly ash. They use it, and they use it in higher percentages."

– Bill Brown, technical services representative, central region, Headwaters Resources

We also promote the use of fly ash through projects like the Washburn Discovery Trail. This scenic multi-use trail near Washburn, North Dakota, includes four test sections using different percentages of fly ash in the concrete. The performance of these sections is being monitored and analyzed, and the results will be used to demonstrate the short-term and long-term benefits of using fly ash in concrete construction projects.

Great River Energy also works with research organizations, government agencies and

universities to seek new uses and new markets for fly ash and other coal combustion products. Through partnerships with these organizations and with companies like Headwaters Resources, we've helped to turn fly ash from a discarded by-product to an in-demand commodity that improves the quality and durability of products ranging from construction materials to kitchen appliances, office workstations and even bowling balls. Products enhanced by fly ash include:

- Ceramic tiles
- Cultured stone
- Carpet
- Paint
- Insulation for stoves and refrigerators
- Ceiling and flooring tiles
- Lumber
- Bricks and masonry
- Shingles and roofing materials

Our high-tech, state-of-the-art collection system and our careful attention to detail in every step of the process ensure the high quality of our fly ash, and that adds quality and durability to items we use every day.



The Washburn Discovery Trail features test sections utilizing different concentrations of fly ash to demonstrate the short-term and long-term benefits of using fly ash in concrete construction projects.

The future of fly ash

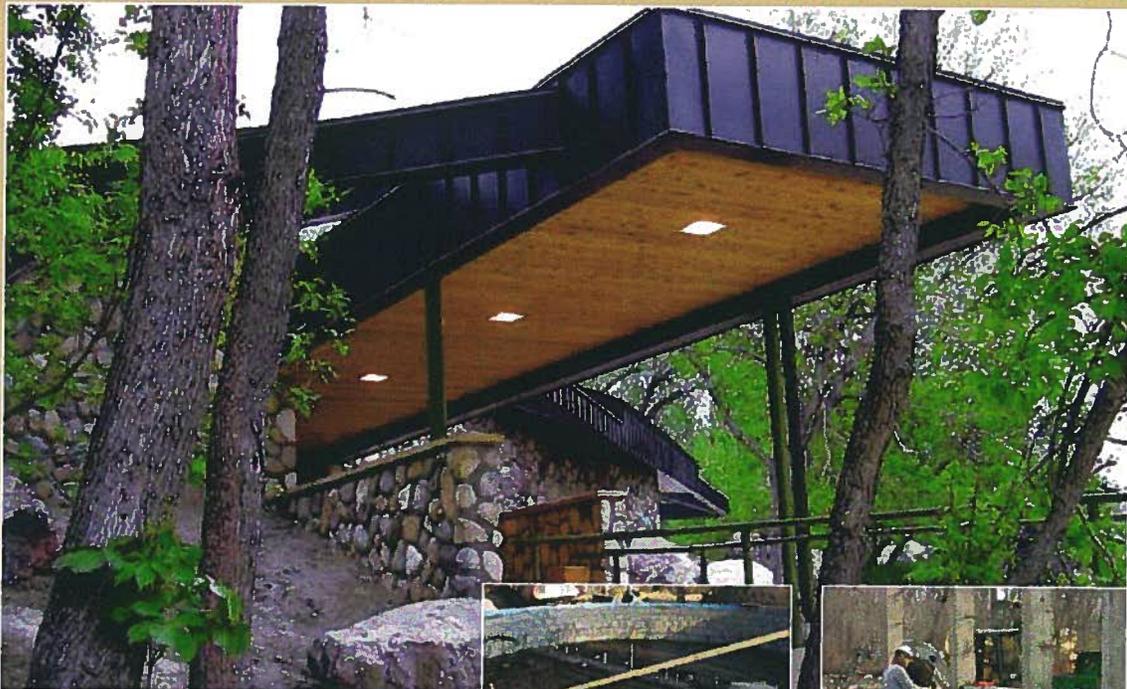
Great River Energy is moving forward to take advantage of the growing demand for construction products like FlexCrete, a strong, fiber-reinforced, aerated concrete made from 70 percent fly ash. FlexCrete has a number of advantages:

- Houses built with FlexCrete cost 30 percent less than those built with lumber.
- The product is light and easy to work with, and is available in blocks or panels.
- Low heating and cooling costs. The insulation factor of an average house built with conventional materials is rated at R-19. An 8-inch block of FlexCrete has R-value of 30 and a 12-inch block has R-value of 36.
- Excellent fire rating. Heating one side of a FlexCrete block to 2,000 degrees for four hours raised the temperature on the other side by just 11 degrees.

- Superior strength, even under extreme conditions. Following the fire test, the super-heated FlexCrete was sprayed with water and didn't shatter.
- Resistant to mold and mildew.

FlexCrete was used to build the Headwaters Fort Mandan Visitors Center, a national showcase for use of coal combustion products in building materials. FlexCrete is also being used in the construction of the National Energy Technology Training and Education Center at Bismarck State College.

Two thousand plus years ago, Romans used volcanic ash to construct magnificent and incredibly durable structures such as the Pantheon. Today, we're using fly ash to build better structures, a better infrastructure, a healthy environment and a stronger economy.



FlexCrete blocks were used to build the Fort Mandan Visitors Center along with many other coal combustion building products.

For more information on fly ash products and how they benefit our economy and environment, check out these resources:

Headwaters Resources
www.headwaters.com/
www.flyash.com/

Energy & Environmental Research Center
www.undeerc.org/carrc/index.html

Headwaters Fort Mandan Visitors Center
www.fortmandan.com/planningyourvisit/headwaters.asp

American Coal Ash Association
www.aca-usa.org/default.htm

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*Front Cover Photo: Interstate Highway 94 in North Dakota at the picturesque Badlands.
Photo courtesy of North Dakota Tourism Division*

Photo: www.und.edu



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