

## OUR VALUES:

Building Relationships  
through:

- Dependability
- Integrity
- Trust
- Quality
- Family

Summer 2007

## Complete Capabilities + a Commitment to Innovation = Superior Solutions

### Recent Projects Highlight Interstates' Formula for Mutual Success

*Every project is a puzzle with pieces that have to be put together: manpower requirements, deadlines, budget, site conditions, and more. Interstates' approach to finding the right solutions is based on their comprehensive, integrated array of services and their determination to apply them in innovative ways.*

*Three recent projects offer telling examples of how Interstates brings skills, experience, and imagination to work on the most puzzling challenges.*



#### Stressing Safety in the Trenches

Installing duct banks for a coker unit revamp for D-Cok, a Houston-based company, presented a special challenge for Interstates' Rocky Mountain Regional Office.



*Crew installing prefab conduit*

Because the site, located near Cheyenne, WY, was on top of a demolished crude unit, there were considerable debris and potentially toxic chemicals just underground.

Rather than undertaking the difficult and possibly dangerous task of building duct

banks onsite, the Interstates team elected to take advantage of their prefabrication capabilities by building the duct banks in their prefab shop and then shipping them to the site for installation.

"It's one of the most extensive prefabs we've undertaken," says project manager Dave Sulsberger. "Some of the duct banks were quite large. For example, there was one duct bank that was 120 feet long and included 64 conduits."

By employing prefab, the crews were able to avoid excessive, potentially hazardous trench work, as well as any chemical hazards that might have been present.

Because the project was on a tight deadline, the Interstates team also made good use of their new Agile Planning and Procurement procedures, which stress careful pre-planning to get tools and materials into position and onsite precisely when needed. "The goals of the new procedures are to eliminate waste and make our crews as productive as possible," Sulsberger says. "When crews already

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# Interstates Honored with ABC National Eagle Award and First Place Safety Award

Interstates received two prestigious Associated Builders and Contractors (ABC) awards at the 17<sup>th</sup> annual Excellence in Construction and National Safety Excellence Awards Celebration, held in the National Building Museum in Washington, D.C. on June 12.

Interstates was awarded a National Eagle Award in the Industrial/Electrical \$2 – 10 Million category for their work on a pet food facility. Interstates also received a first place safety award – one of only 15 awarded nationally among the 24,000 companies in ABC.

Interstates qualified for consideration for the National Eagle Award by winning the distinction at the state level. They performed all electrical construction, engineering, and automation work for the facility, using innovative approaches to complete the project in 18 months while remaining under budget. It was the fourth time in the 17-year history of the award that Interstates has won the honor, following wins in 1995, 2001, and 2005.

The ABC National Safety Award recognizes outstanding safety performance and programs. Only those companies who have earned ABC's STEP (Safety Training and Evaluation Process) Platinum designation are eligible for consideration and 150 of those eligible companies competed for the National Safety Award.

"This kind of recognition reinforces our reputation as a premier provider and confirms our status as a company with national scope," says Brandt Bensema, Interstates' Director of Business Development. "The Award of Excellence is a tribute to the expertise and hard work of project superintendent Charlie Baumgartner, integrated project manager

Jerry Steenhoek, and all of their crews. The Safety Award is a confirmation of our efforts to implement 'best practice' safety processes companywide. I can't think of two more significant or gratifying honors."



*Accepting the ABC National Safety Excellence Award are Dave Crumrine (second from left) and Scott Koll (second from right)*



*Accepting the ABC National Eagle Award are Charlie Baumgartner (middle) and Jaron Vande Hoef (right)*

## INTERSTATES OUT & ABOUT

American Coalition  
for Ethanol  
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and Trade Show



August 7 - 9, 2007  
River Centre  
St. Paul, MN  
Booth #1022

# MAXIMIZE YOUR ELECTRICAL INVESTMENT

## When to Purchase NEMA Premium™ Efficiency Motors

### Summary

NEMA Premium efficiency motors should be considered for new motor purchases and when specifying motor-driven equipment. NEMA Premium motors should also be considered when repairing or rewinding failed standard-efficiency motors or as replacements for older, operable lower-efficiency motors – particularly when the existing motor has been rewound or is oversized and underloaded.



Jaron Vande Hoef

annual operation exceeds 2,000 hours, where utility rates are high, when motor repair costs are a significant fraction of the price of a replacement motor, or where electric utility rebates or other incentives are available.

NEMA Premium motors typically cost 10% to 15% more than their less efficient counterparts. Annual energy savings are dependent upon operating profile, duty cycle, and efficiency gain. Examples of annual savings due to using NEMA Premium motors instead of motors that just meet the EPA energy-efficient standard are shown in Table 1.

$$\text{Energy Savings} = \text{hp} \times \text{load} \times 0.746 \times \text{hours} \times (100/n_{\text{std}} - 100/n_{\text{PE}}) = 75 \times 0.75 \times 0.746 \times 8,000 \times (100/91 - 100/95.4) = 17,014 \text{ kWh/year}$$

$$\text{Energy Cost Savings} = 17,014 \times \$0.05 = \$851/\text{year}$$

### Conclusion

Over a 10-year operating period for a typical induction motor, the purchase price only represents about 2% of the total life-cycle cost of the motor. Energy and maintenance costs account for the remaining 98%. Even a small improvement in motor operating efficiency can produce significant energy and dollar savings and provide a rapid return on investment.

*For more information on how to maximize your electrical investment, contact Jaron Vande Hoef, P.E. at 712-722-1664 ext. 304*

### Background

In August 2001, the National Electrical Manufacturer's Association (NEMA) implemented a new NEMA Premium Energy Efficiency Motor Standard. Under this voluntary program, a motor may be marketed as a NEMA Premium motor if it meets or exceeds a set of NEMA minimum full-load efficiency levels. These levels are higher than the minimum full-load efficiency standards for energy-efficient motors under the Energy Policy Act of 1992 (EPA).

NEMA Premium motor standards apply to NEMA Design A and B, three-phase, low- and medium-voltage induction motors rated from 1 – 500 horsepower (hp) and designed for service at 5,000 volts or less. Motors with speeds of 1200, 1800, and 3600 RPM with open drip-proof (ODP), explosion-proof, and totally enclosed fan-cooled (TEFC) enclosures are included.

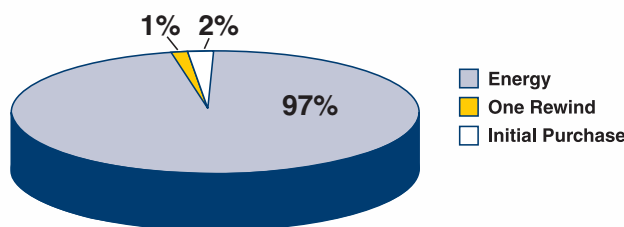
### Benefits

NEMA Premium motor are particularly cost-effective when

### Example

An old, 75-hp standard-efficiency fan motor is to be replaced with a NEMA Premium efficiency motor. The existing motor operates at 75% load for 8,000 hours annually with efficiency ( $n_{\text{std}}$ ) of 91.0%. An example calculation is shown above.

### Lifetime Cost of an Electric Motor



Horsepower	Full-load Motor Efficiency (%)		Annual Savings from Use of a NEMA Premium Motor	
	Energy Efficient Motor	NEMA Premium Efficiency Motor	Annual Energy Savings, kWh	Dollar Savings, \$/year
10	89.5	91.7	1,200	\$60
25	92.4	93.6	1,553	\$78
50	93.0	94.5	3,820	\$191
100	94.5	95.4	4,470	\$223
200	95.0	96.2	11,755	\$588

Note: Based on purchase of a 1,800 rpm, TEFC motor with 8,000 hours/year of service, 75% load, and an electrical rate of \$0.05/kWh.

# Interstates Celebrates Promotions

**Monte Vander Velde** has been named president of the Interstates Instrumentation group. Vander Velde joined Interstates in 1994 and was most recently the general manager of the instrumentation team. In response to his promotion, Vander Velde stated, "I am committed to building upon the solid history and core values of Interstates as we seek to understand our clients' needs



**Monte Vander Velde**

and deliver products and services that add value."

"Monte is a natural choice to lead Interstates' instrumentation business," says Jack Woelber, president of Interstates Control Systems, Inc. "He has been the general manager for a couple of years and has proven his passion and understanding of the business. Monte is a great 'fit' for the role of president of this area of the Interstates Companies."

*Changes have also taken place in the Interstates Construction (IC) group. IC has promoted Dave Los, Randy Van Voorst, and Wayne McDaniel to vice-president positions within the company.*

**Dave Los**, vice-president of operations, has led several key strategic programs for the construction group

and has been instrumental in keeping Interstates on the cutting edge of construction project delivery. In this new position, Los will continue his work in the role of researching and developing new methods in construction project delivery, with the goal of staffing fewer people on jobs, faster project delivery potential, and increased efficiency in the field. Los credits his success to working with a talented team of people who are committed to ensuring Interstates remains a premier provider to the industries it serves.



**Dave Los**

**Randy Van Voorst**, vice-president of project delivery, has developed a strong track record of providing premier service to Interstates' clients. Van Voorst came onboard with Interstates in 1971 as an electrician and advanced his electrical and instrumentation training and experience as he grew with the company. Currently, Van Voorst's role is executive sponsorship of projects for a key set of client and partner relationships.



**Randy Van Voorst**

He continues to set the standard for client satisfaction by leading teams from all Interstates' companies to deliver using an integrated approach, and plays an integral role in developing the workforce of Interstates Construction.

**Wayne McDaniel**, vice-president of project delivery, started his career at Interstates in 1973. McDaniel built his reputation as a project leader traveling throughout the country during the formative years of IC's growth. Since accepting the position of project manager in Sioux Center in 1992, he has continued to build the Interstates brand by serving clients and coaching a new generation of leaders from within the company. In his new role, McDaniel will continue to work closely with clients to help meet their construction needs, as well as work to transfer his skills to the next generation of IC.



**Wayne McDaniel**

"We recognize the importance of strong leadership to the future success of the Interstates Companies. Through Dave, Randy, and Wayne's unique contributions, they have helped set the standard for what Interstates is and what we strive to become," said Dave Crumrine, president of Interstates Construction Services.

*"These gentlemen exemplify a commitment to leadership and a dedication to providing quality service for their team members and our partners in the industry," said Larry Den Herder, CEO of the Interstates Companies. "We recognize their efforts to be the best at what they do on a daily basis."*

## PROUD TO BE MEMBERS OF



### SOLUTIONS *continued from page 1*

have what they need, they don't need to waste time looking for anything else. It makes it possible to get more done with smaller crews, and that's a big advantage for our customers."

#### Single-Source Solution for a Daunting Deadline

The deadline for a control system retrofit for an onion processor was enough to make you weep.

ConAgra Foods turned to Interstates to retrofit their onion mill at the Gilroy Onion Plant in Gilroy, CA, because of the critical nature of the deadline for starting operations. The project had to be complete in time for the onion harvest, which generally begins in late April or early May, but it couldn't proceed until the plant's seasonal shutdown in mid-February, leaving a very narrow window of opportunity.



*Inside of a Panel*

"ConAgra was counting on us to deliver," says Interstates' Brian Olsen. "There was no 'Plan B.' The plant had to be operational for the harvest. At its peak, the plant processes 60 semi-trailer loads of onions a week."

Interstates was able to meet the demanding deadline because of its complete, integrated capabilities. By operating as one source for all of the project requirements – including panel design, construction, and programming – the Interstates team was able to finish the project using only one subcontractor.

"For other companies, a mill retrofit like this would require at least two subcontractors – if not more," Olsen says. "Because we can do it all, from electrical

construction to control systems, we can offer customers a single point of contact. There are no coordination problems and no finger-pointing. It's all handled seamlessly, which can mean significant time savings."

#### A Software Solution for a Global Giant

Installing patches – software fixes that update computer systems, particularly those for Microsoft's operating systems – can give IT workers a headache, especially when they need to be installed in an extensive network for a leading consumer products company.

The experts with Interstates' Manufacturing IT group had the answer: integrating an existing product called Big Fix into the client's plant floor controls network.

"It will take a lot of the load off their local IT departments," says Interstates' IT systems lead Marty Van Der Sloot. "It's a global solution for making sure system changes are compatible with their security system. The biggest challenge is the scope of the project. You're talking about 1,500 systems!"

The new patch management system will allow Interstates to manage, monitor, and support patches for the customer. While it will initially be used to only manage Microsoft patches, it will also be capable of installing future updates and fixes to the system, delivering significant cost savings and improved efficiency.

*Find out how Interstates' integrated services and innovative approaches can solve your project puzzles. Call 800-827-1662 today!*

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*Crew installing prefab conduit*

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