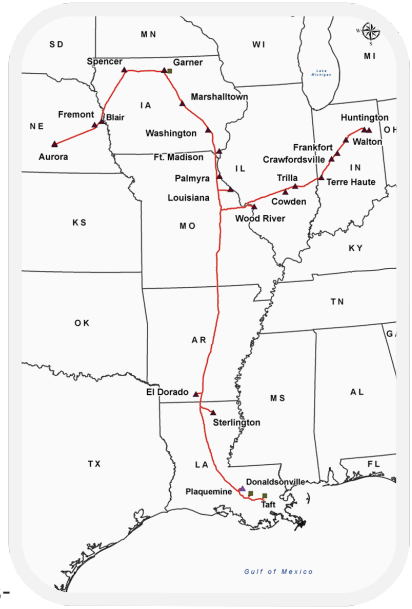
Case Study: Nustar Energy L.P.

NuStar Energy L.P. is one of the largest asphalt refiners and marketers, and the second largest independent liquids terminal operator, in the United States.

It has 8,417 miles of pipeline, 88 storage facilities and two asphalt refineries and operates in three segments: Pipeline Operations, Terminaling Operations, and Product Sales Operations.



NuStar Energy's pipeline operations consist primarily of the transportation of refined petroleum products and crude oil. Its refined product pipelines in Texas, Oklahoma, Colorado, New Mexico, Kansas, Nebraska, Iowa, South Dakota, North Dakota and Minnesota cover approximately 5,679 miles.

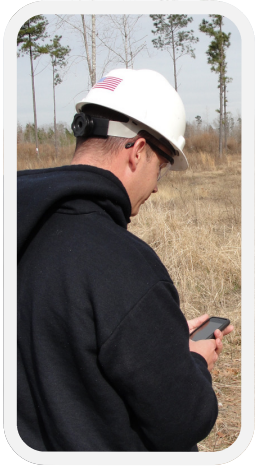
In addition, NuStar's Ammonia Division operates a 2,000 mile pipeline system that transports anhydrous ammonia throughout Arkansas, Missouri, Louisiana, Illinois, Indiana, Iowa and Nebraska. The product is used both as a direct application fertilizer and to manufacture fertilizers, plastics and acrylic fibers.

Remote CP Monitoring

NuStar's Ammonia Division has a large impressed current cathodic protection system on its pipelines and started using remote monitors to transmit data from its rectifiers in 1997. However, over the years, its experience was not good.

The original units could take up to a day to install and were a maintenance headache, with 25 – 30% of them not working at any one time.

In 2008 NuStar switched to using the Abriox MERLIN Rectifier Monitors. Tom Bruckerhoff tells us of his experience and what he particularly likes about his MERLIN system:



"Since we started installing the Merlin units the maintenance problem has gone! I like the fact that the installation is fast and easy. The units can be installed and programmed by one person in about 2 – 3 hours.

The units are very reliable with very few, if any, maintenance issues. I like the fact that I can receive alarms via e-mail or text message, and when I do get an alarm the unit is truly in alarm state, no false alarms.

I like the small compact size that the unit offers; there is plenty of room in most rectifiers for the unit, therefore no outside boxes to house the units. I am using the 5 channel units where I can read DCV, DCA, P-S potential and interrupt the rectifier and am very pleased with the performance of the unit.

I appreciate the fast and accurate technical support that I have received - on the few occasions that I have needed it. I would recommend the Abriox Merlin unit to anyone who wants a simple, easy to install, and reliable remote Monitor"

Tom Bruckerhoff