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MATRIX SERVICE CO.: INGENUITY AND ENGAGEMENT AT EVERY LEVEL

From aboveground storage tanks, terminals, and facility construction and maintenance to full-service EPC contractor, today Matrix Service Co. and its subsidiaries offer complete lifecycle solutions across the energy and industrial markets.

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FEATURES

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Now is the time for American energy security

Meridian Energy Group making progress on N.D. refinery

Improving turnaround risk management

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Building effective lessons-learned programs

Essential tasks for the new maintenance manager

Inside this issue: Special pullout wall map of U.S. refining facilities



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Move to a higher standardSM

Fueling the future

World-class EPC and partnership approach helps small scale LNG and natural gas companies achieve big objectives



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Just a decade ago, the U.S. was expected to be a primary importer of liquefied natural gas (LNG), and — except for peak shavers to support periods of short supply — demand for small scale LNG facilities to support other high-horsepower applications was nearly non-existent. At the same time, world leaders and regulatory organi-

PDM Engineering and Matrix Applied Technologies). It is an evolution that has been both strategic and timely, especially as the abundance of natural gas has driven demand for infrastructure that includes gas processing facilities, compressor stations and storage for natural gas liquids, including ethane, propane and butane.

design and implementation of cryogenic gas processing, electrical instrumentation and controls, marine structures, sulfur recovery and processing, bulk material handling, pollution controls and more.

“Since inception, our success has come through listening to and collaborating with our customers to understand their business issues so we can deliver the right skill sets and solutions to help them achieve their objectives,” said John R. Hewitt, president and chief executive officer of Matrix Service Co. “It may be through application of core expertise to new markets or through acquisition of additional skills and expertise. Fundamental to either is living our core values of safety, integrity, stewardship, positive relationships, community involvement and delivering the best.”

just the past five years, Matrix PDM has provided balance of plant engineering, design and procurement services integrating cryogenic recovery, amine treating, condensate stabilization and dehydration gas processing facilities on 13 major projects across Texas, northern Louisiana, western Pennsylvania, Iraq and Vietnam. Work has also included engineering on compressor stations, slug catchers, truck loading and unloading, and related projects in these same locations.

With the abundant availability of natural gas, a main feedstock for petrochemicals and fertilizer, North American facilities are also re-shoring for the first time since the mid-1980s. There, Matrix performed the front-end engineering design (FEED), detail engineering, procurement and construction for ammonia storage and handling systems at the first nitrogen fertilizer plant to be built in the U.S. in the last three decades — OCI Iowa Fertilizer in southeast Iowa — as well as at Fortigen Fertilizer in Geneva, Nebraska.

Perhaps nowhere is the abundance of natural gas more evident than in the significant opportunities being created by companies like Eagle LNG to dis-

“To go from zero engineering and no land to a completed plant in less than 24 months is pretty impressive. It shows what you can do with a focused team and dedicated partners like Matrix.”

— Michael Hosford, senior vice president, Ferus Natural Gas Fuels

zations began setting and implementing standards to reduce the amount of carbon dioxide, particulates and other pollutants emitted by hydrocarbon fuels such as coal and diesel. Among these standards are the United Nations’ International Maritime Organization’s 2020 decision and the Kyoto protocol, as well as the Environmental Protection Agency’s Diesel Fuel Standards to lower sulfur levels in all transportation fuels.

Just 10 years later, the abundance of natural gas being recovered through horizontal drilling and hydraulic fracturing, especially in the major shale plays, has put North America at the forefront of providing the clean, sustainable fuel needed to power the economy — a dramatic evolution in a relatively short period of time.

As the natural gas market has evolved, so, too, has Matrix Service Co. (Nasdaq: MTRX) and its subsidiaries (Matrix Service, Matrix NAC, Matrix

A look back

Just as shale gas began its sustaining influence on U.S. energy supply, Matrix — once known primarily as a leader in aboveground storage tanks, terminals and facility maintenance — acquired PDM Engineering, bringing integrated multi-disciplinary expertise in cryogenic and low-temperature tanks, pressure vessels and terminals to its service offering. In 2016, the licensing of GTT North America’s membrane tank technology for onshore LNG and NGL applications added a time-tested alternative that has been used for decades on LNG carriers and in various land-based applications around the world. And through the acquisition of Houston Interests and its subsidiaries (River Consulting, DEVCO, S&R Technical Services and Process Plant Services) in 2016 as well, Matrix PDM further expanded its engineering capacity and also added unmatched expertise in the

The energy and industrial evolution

Across the natural gas value chain — at gas processing plants, fertilizer facilities, storage terminals and refineries — it is this approach that has industry leaders turning to Matrix for full-service EPC or critical work scope elements as part of a multi-firm project delivery model. For example, in



The OCI Iowa Fertilizer facility turned to Matrix for the front-end engineering design (FEED), detail engineering, procurement and construction for ammonia storage and handling systems.

place diesel and heavy fuel oils (HFOs) in high-horsepower and other applications through the strategic build-out and operation of micro-, small- and mid-size LNG facilities.

“Industries that rely on high horsepower — marine, rail, trucking, remote and back-up power generation, oil and gas exploration, mining — are transitioning to LNG, the cleanest-burning hydrocarbon available, because it is readily available, environmentally responsible, efficient and cost effective,” said Michael Hosford, senior vice president at Ferus Natural Gas Fuels, the

‘doers,’ and we look for partners with the same mindset. This project is an example of that,” said Hosford. “To go from zero engineering and no land to a completed plant in less than 24 months is pretty impressive. Eagle LNG cleared ground in May 2016. Matrix raised the roof on the LNG storage tank in January 2017, and was ready for cool-down in September 2017. You can achieve great things with a focused team and dedicated partners like Matrix.”

The added expertise Matrix PDM Engineering brings to Eagle LNG through its most recent acquisition is



Cheniere’s Sabine Pass, where Matrix provided design, procurement and construction of the LNG storage tanks and their foundations.



The Red Bluff 200-million-standard-cubic-foot-per-day gas processing facility near Orla, Texas, where Matrix PDM performed the balance of plant engineering, design, procurement and project management.

“Matrix isn’t the mega-sized construction company, but they also aren’t a small boutique firm. They provide a tremendous amount of flexibility and ingenuity and are actively engaged at every level. At REV LNG, we pride ourselves on listening to our customers and doing our best to design and implement the best strategy and solutions for them. Matrix does the same.”

— David Kailbourne, CEO, REV LNG

parent company of Eagle LNG Partners.

One case in point is maritime shipping and logistics giant Crowley, which recently purchased two LNG-powered ships to replace outdated diesel-fueled tugboats and barges running between the U.S. mainland and Puerto Rico. When Crowley went in search of a company to build and operate an LNG fueling depot in Jacksonville, Florida, the company chose Eagle LNG because it was known for working closely with its customers to custom-tailor the right solutions. Eagle LNG, in turn, chose Matrix.

“We selected Matrix Service, along with Matrix PDM Engineering, for the EPC and fabrication of the LNG storage tank for the same reasons Crowley selected us,” said Hosford. “Matrix is known for their partnership approach in providing the technical expertise needed to develop the right solutions and meet the highest possible standards in a cost effective and efficient manner.”

With the first of Crowley’s new LNG-powered ships set to sail in late 2017, Eagle LNG also knew Matrix would support the Eagle LNG team’s aggressive 24-month project timeline to complete the new Maxville Terminal.

“At Eagle LNG, we are a group of

also something Hosford believes will be of significant benefit as Eagle LNG pursues additional opportunities across North America.

“In particular, the design and engineering expertise Matrix now brings in marine structures is a real positive,” he said. “On our current Jacksonville Export Project, having this engineering discipline allows Matrix to look at the entire project, including the EPC, tank and marine design. We look forward to these synergies being brought to the table.”

The right fit

In the Northeast, REV LNG, an integrated LNG and compressed natural gas (CNG) distribution and solutions company, has also turned to Matrix NAC to support its customers’ evolving needs. Specifically, REV LNG looks to Matrix for expertise in both power generation and delivery, as well as cryogenic storage terminals.

The company describes itself as a “well-to-wheel” distributor of LNG and an innovator in the supply chain management of LNG distribution. One such example is REV LNG’s partnership approach with power producers, primarily in the Northeast, to transition backup fuel systems from diesel and HFOs to

natural gas. REV LNG builds, owns and operates the LNG storage, vaporization units and heavy infrastructure at a power plant and also provides complete vertical integration and support.

“It’s a model we have found to be successful for power plants and utilities, but it also requires highly specialized expertise,” said E. David Kailborne, REV LNG chief executive officer. “With Matrix NAC, we have a contractor for construction, design and engineering that specializes in and understands our customers’ daily business — power generation — and also understands our daily business, which is LNG infrastructure.”

Ultimately, Kailborne said it also has to be “the right fit,” adding, “Matrix isn’t the mega-sized construction company, but they also aren’t a small boutique firm. They provide a tremendous amount of flexibility and ingenuity and are actively engaged at every level. We pride ourselves on listening to our customers and doing our best to design and implement the best strategy and solu-

tions for them. Matrix does the same.”

From aboveground storage tanks, terminals and facility construction and maintenance to full-service EPC contractor, today Matrix Service Co. and its subsidiaries offer complete lifecycle solutions across the energy and industrial markets.

“Our success is dependent upon the success of our customers,” said Hewitt. “Just as we have evolved to ensure we can address the complex and critical needs of a changing energy market, we will continue to do so to ensure that we can help our customers meet their strategic business objectives.”

For more information about Matrix Service Co. and its subsidiaries — Matrix PDM Engineering, Matrix Service, Matrix NAC and Matrix Applied Technologies — visit www.matrixservicecompany.com or call (918) 838-8822. •



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subsidiaries

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incident safety culture

33+

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Across the natural gas value chain - from gas processing to petrochemical plants, large- and small-scale LNG and NGL terminals, there's a reason energy companies leading the industry turn to Matrix for world-class engineering, procurement, construction, fabrication, maintenance and repair.

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