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BUSINESS & INDUSTRY CONNECTION



CLEAN HARBORS — ENVIRONMENTAL, ENERGY AND INDUSTRIAL SERVICES

With the recent acquisition of Eveready Energy Services and Cat Tech, Clean Harbors offers unparalleled services and is leading the way for customers in all industries.

THE TURNAROUND MANAGEMENT COMPANY MAKES IT EASY TO GET EXPERT PROJECT CONTROLS Clients take control with qualified staff and expert project controls training. See inside for details.

FEATURES

AOPL, Andrew Black advocate for liquid pipelines industry

Eastman Texas Operations site manager J. Mark Bogle poised to further plant's legacy

Shell's Perdido breaks world records with innovative technology

Hyperion set to build first domestic grassroots refinery in more than 30 years

Researchers work toward increasing deepwater drilling success

Selling to the refiner

'Nanoreporters' to aid in oil production



The 2010 BIC Planner: Your guide to industry trade shows, events and conferences

The Perfect Fit.

Clean Harbors offers unparalleled services to operations, plant, and EH&S managers, and purchasing professionals in the refining, chemical/petrochemical, and power and utility industries.

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VPP Resident Contractors Program extends safety, collaboration

O^{SHA} Voluntary Protection Program (VPP) certification delivers consistently better Environmental Health & Safety (EHS) performance. Recognizing this, many refineries, as well as chemical, petrochemical, power and utility companies are enthusiastic participants in the program. The employee involvement and focus on EHS codifies and improves the applicant company's safety policies, procedures and culture.

Yet, any contractor on an industrial site can undermine a company's VPP compliance through poor practices, inadequate training or failure to adhere to safety standards. However, companies can influence contractors' safety cultures by encouraging them to implement VPPlevel safety procedures. It also helps to select contractors that have achieved VPP certifications for their own operations.

The VPP program is open to a wide range of resident contractors — virtually any company that provides on-site services.

This demonstrates an understanding of the program and a corporate-wide commitment to safety.

The VPP Resident Contractors Program addresses these issues since it is designed to integrate and raise the level of vendors' safety programs to that of the company operating the site (host). Previously certified contractors will understand the process and be eager to participate.

The VPP program is open to a wide range of resident contractors, including industrial maintenance and support logistics companies, as well as environmental service and waste water contractors, onsite engineering and industrial services contractors, construction companies, equipment suppliers and erectors — virtually any company that provides on-site services.

Host company benefits

There are many benefits to the host company. Resident contractors that have achieved VPP status will have a safety culture that more closely aligns with the host company's, and their procedures will be well-defined and reviewable. As a result, host companies can be more comfortable having resident contractor employees working side by side with their employees.

Resident contractors, through their VPP GAP analyses, will also identify key EHS elements, such as a host's strong loss control and prevention program. This will enable them to create safety program goals that closely align with the host's key performance indicators, such as Total Recordable Injury Rate (TRIR) and Days Away/Restricted Time (DART).

Further, hosts can go from turnaround to turnaround knowing that they can hire the VPP-certified contractor and that its workers, even peak load workers, will be aware of and indoctrinated into the contractor's safety culture.

Finally, since OSHA asks for a report on VPP-certified resident contractors as part of the periodic review process, the program can help with recertification.

Resident contractor program requirements

The requirements for resident contractors are identical to other VPP programs with a few additional stipulations:

• The host company must be VPP certified ("Merit" or "Star") at the time of the resident contractor's application.

• The resident contractor must have a minimum of 12 months on the host's site.

• The resident contractor will use either the host's or the contractor's North American Industry Classification System (NAICS) classification, depending on the nature of the work performed and whether it is something that the host company could normally perform in house.

There are additional rules that are outlined in Chapter 3 of OSHA Instruction: (CSP 03-01-003) Voluntary Protection Programs (VPP): Policies and Procedures Manual, located at: www.osha.gov/pls/ oshaweb/owadisp.show_document?p_ table=DIRECTIVES&p_id=3851.

A few other important stipulations that apply post certification include:

• The resident contractor's VPP status after approval is contingent upon the host's continued VPP participation.

• Resident contractors must inform employees and subcontractors of their rights, roles and responsibilities under VPP and provide evidence that all employees and subcontractors recognize their responsibilities. This notification requirement can be met through contractual agreement, a written statement of willingness to cooperate and/or attendance at safety meetings.

The application process

As noted above, the resident contrac-

tor application process is similar to other VPP programs. The VPP-certified host company invites a qualified resident contractor to initiate a VPP application. It then assigns a mentor for the contractor application process, playing the role of VPP volunteer mentors or Special Government Employees (SGEs) that typically support "Merit" and "Star" certifications.

The host, through its mentor, helps set the plan of action. The committee is led and staffed by resident contractor employee volunteers who represent the major functions carried out at the facility. The committee focuses only on certification and is separate from the standing safety committee. It conducts a GAP analysis to identify weaknesses in the management system and the delta between current procedures and OSHA guidelines.

In the process, gaps between the resident contractor's and the host's programs also become apparent, which offers insights on how to more closely align with the host's policies and procedures. The gaps can then be addressed in the corrective action plan. So, the committee's objective for the VPP compliance process is to meet the OSHA requirements and to rationalize its safety program with the host's.

The next step is to develop the corrective action plan and submit it to the host's mentor for review. After approval, the committee defines the procedures and moves through the audit process, implementing the improvements, tracking progress and documenting results in accordance with VPP guidelines.

Once the VPP committee determines that the site is ready, it submits the application and an on-site evaluation is scheduled by the OSHA audit team. The team, which generally includes relevant technical experts, conducts a physical inspection to make sure that management systems are in place.

Following certification, it is up to the resident contractor to remain in compliance by following VPP safety performance and reporting rules. As mentioned above, noncompliance by the host company will also affect the contractor's ability to remain in the program.

Resident contractor benefits

There are several reasons for a resident contractor to be interested in VPP Resident Contractors Program certification, if invited. The most important is that by achieving VPP, the contractor enhances overall plant safety and develops practices that better align with the host's operating procedures.

A related benefit is that, in addition to applying a higher standard at the host site, the contractor is able to transfer the best practices required by VPP to other locations, increasing the contractor's value to other customers. Having gone through the process, the contractor is also better prepared to participate in VPP Resident Contractors Program projects with other customers. For contractors that already have VPP certifications for their own sites, they are able to extend their VPP program to another location.

On the business side, when a resident contractor invests the time and effort to respond to a host's request for participation, it strengthens ties, making the host more likely to continue the business relationship. This is demonstrated by the fact that many hosts grant their VPP resident contractor partners preferential vendor status based on the knowledge that the contractor maintains the highest safety standards.

The VPP Resident Contractors Program is complementary to the better known "Merit" and "Star" programs. It significantly improves overall plant EHS by ensuring that everyone is committed to safety and is operating from the same playbook. It provides an empirical, thirdparty review that ensures continual evaluation and compliance. It gives the host

The requirements for resident contractors are identical to other VPP programs with a few additional stipulations.

company a safety-minded partner that further reduces risk, enhances employee health and safety, and raises host/contractor relations to a new level.

Phillip G. Retallick is senior vice president, regulatory affairs for Clean Harbors. He has 32 years of experience, including 18 years with federal and state environmental protection regulatory agencies. He is the company's chief compliance officer with responsibilities for EHS and transportation compliance, industrial hygiene and medical monitoring, regulatory training, and corporate internal audit/oversight.

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Clean Harbors -

An unmatched partner for industrial and environmental services



W ith Clean Harbors' recent acquisition of Eveready Inc., our customers now have access to an unmatched selection of industrial, energy and environmental services," said Alan S. McKim, Clean Harbors chairman and CEO. Already a major service provider to refinery, chemical, petrochemical, power and utility operators, the acquisition continues almost 30 years of organic growth and expansion. McKim added, "Clean Harbors offers an unprecedented combination of talented people and valuable assets to serve North American industry."

Clean Harbors is a real success story. From a rented garage in 1980, McKim started the company as a tank-cleaning business. The first job was cleaning a 120-

Less than three decades after its modest beginning, Clean Harbors serves more than 50,000 customers.

foot diameter No. 6 oil tank at a petroleum storage terminal in Providence, R.I. Always a hands-on individual, McKim rolled up his sleeves and cleaned the tank along with his three employees, who are still with the company today. The invoice for the job? \$600.

Since then, Clean Harbors has consistently grown, becoming a publicly traded company in 1987. Demonstrating its "can do" attitude, it was the first company to go public following the 1987 stock market crash. Today, Clean Harbors trades under the NYSE: CLH symbol and is one of North America's leading providers of industrial and environmental services. Even as a \$1 billion entity, it remains true to the company's tradition of partnering with customers to help ensure mutual success.

Less than three decades after its modest beginning, Clean Harbors serves more than 50,000 customers, including a majority of the Fortune 500 companies, thousands of smaller private entities and numerous federal, state, provincial and local governmental agencies. Its operations extend throughout North America, Mexico and Puerto Rico. The company also has international locations in Bulgaria, China, Sweden, Singapore, Thailand and the United Kingdom.

Safety and efficiency

Throughout Clean Harbors' history, the company has maintained an unwavering commitment to safety. *SafetyFirst!*, Clean Harbors' comprehensive and industry leading safety and health program, is employee driven with a firm management commitment to meet industrial safety standards for service providers. Its approach to the health and welfare of Clean Harbors' employees, as well as customers' employees and the environment, helps keep customers' plants in compliance with OSHA and provincial ministries of labor regulations.

All of Clean Harbors' safety practices extend throughout its operations so their

customers can minimize exposure to on-site risks. The company strives for continuous improvement in health and safety through a vigilant, self-auditing process. Additionally, the company's programs are continually monitored by a team of safety professionals and updated routinely to maintain approved status by ISNetworld, PICS and other customer-utilized safety databases for contractor approval.

Clean Harbors has the largest number of treatment, storage and disposal facilities that have earned OSHA Voluntary Protection

Program (VPP) "Merit" and "Star" designations. Ten other Clean Harbors facilities are currently pursuing VPP status, and the VPP philosophy extends to Clean Harbors employees who work on customer sites. The company has also stated its commitment to pursue VPP Corporate status under the pilot program.

With safety at the forefront of all its activities, it stands to reason that Clean Harbors actively participates in VPP Resident Contractors Programs at customer sites. The VPP Resident Contractors Program is designed to integrate and raise the level of vendors' safety programs to that of the host company. Industrial companies can enhance their health and safety programs by inviting their resident contractors to seek VPP status for their on-site services.

Commented McKim, "Safety has been a constant for us since we cleaned our first tank back in 1980. We've invested heavily in technology and equipment. Most importantly, we've created a culture that tran-



Clean Harbors Catalyst Technologies, a worldwide leader in innovation and technology, provides complete catalyst management.

scends employee training and safety procedures. These efforts and attitude pay big dividends for our customers who can be confident having us on their sites working with their employees."

Services portfolio

Clean Harbors leverages its experienced employees, technical expertise, impressive array of equipment, and significant transportation and disposal assets to provide turnkey services to refinery, chemical, petrochemical, power, utility and other industrial customers. By tailoring services for each customer, Clean Harbors helps companies focus on their core business and maintain their competitive edge. As a single source provider, Clean Harbors maximizes



Clean Harbors' closed loop pigging process uses a high-volume, low-pressure water pumping system to propel its patented bi-directional pigs through pipes and coils to effect cleaning.

productivity and eliminates the costs and complexity associated with managing multiple contractors.

Clean Harbors' integrated portfolio of services has a sharp focus on industrial operations.

• Decoking/pigging. Clean Harbors' Decoking/Pigging Services provides safe, cost-effective and environmentally friendly removal of pipe and furnace tube deposits. The closed loop pigging process uses high (Continued on next page) volume, low pressure water pumping to propel patented bi-directional pigs through pipes and coils. The operation is safely controlled from a decoking/pigging unit's control room where flow rates and pressures are closely monitored.

• Catalyst technologies. Clean Harbors Catalyst Technologies provides complete catalyst management, handling and changeout services. ISO certified for quality, environmental, and health and safety management systems, the services reduce liability and increase efficiency. Clean Harbors staff has expertise in all phases of catalyst handling from unloading/reloading (inert or air atmosphere), segregation and de-dusting (spent and fresh), catalyst packaging (drums, flo bins, super sacks), to dense

Clean Harbors actively participates in VPP Resident Contractors Programs at customer sites.

loading, deactivation, and HT salt melting, storing and handling.

• High pressure services. Clean Harbors High Pressure Services utilizes automated and specialized waterblast equipment to remove deposits from process vessels, tanks and lines, including heat exchangers, condensers, evaporators, reactors, separators, fin fan tubes, cooling tubes and boilers. The company's high pressure services include bundle pulling and cleaning, dry ice blasting and cold cutting.

• Chemical cleaning services. Chemical cleaning efficiently removes corrosion, deposits, residual oils/greases and other obtrusive contaminants from tainted surfaces and equipment. Clean Harbors processes can be used for passivation to eliminate fouling, oxidation, process-system corrosion and decontamination of process lines and vessels.



Utilizing Clean Harbors' proprietary online inventory system, a Clean Harbors team is seen moving and tracking containers in-plant.

• Material processing. Clean Harbors safely removes sludge from storage tanks and surface impoundments that limit operational effectiveness. Its processes also reduce the volume of waste through the use of specialized dewatering and dredging equipment to provide significant cost savings and improve efficiency.

• Vacuum services. Specialized vacuum services enable Clean Harbors to collect and transport (wet or dry) hazardous and nonhazardous materials. Vacuum equipment, including stainless steel, car-

bon steel, and dry and liquid units, is selected based on the nature and quantity of the material to be removed. To meet customer needs, Clean Harbors constantly enhances its fleet with new equipment.
Outage and turnaround

services. Clean Harbors provides industrial cleaning during planned or unplanned, total or partial shutdowns of a process, unit or plant to perform maintenance, overhaul and repair operations. With the company's extensive experience in industrial operations, it has a keen understanding of the time sensitivity and impact on the bottom line of idled units, critical equipment and systems. As a result, Clean Harbors mobilizes equipment and professionals who work

24/7 to execute a turnaround in the shortest possible time, within budget, and without incident.

• Container management. Clean Harbors manages the physical movement of rolloffs, bins and frac tanks, ISO containers and intermodal containers using a systematic tracking system that captures all container activity. Every aspect of inventory management and movement is covered, from the initial deployment of

containers through the maintenance and review of containers when they are emptied. Customers can access Clean Harbors' online inspection and tracking system to monitor containers at various points within the movement cycle.

• Waste disposal. Clean Harbors offers the most comprehensive hazardous and nonhazardous waste disposal services. With more than 50 company owned and operated waste management facilities in the United States and Canada that cover a broad range of disposal technologies, Clean Harbors provides safe, efficient handling of industrial operations waste streams. Companyowned disposal capabilities include incineration, landfill, wastewater treatment, fuels blending, recycling and other services. These capabilities eliminate third-party handoffs, which further reduces costs and liability for Clean Harbors' customers.

• Pipeline services. Advanced pipeline cleaning technologies can increase pipeline flow efficiency by as much as 15 to 30 percent. Working with customers, Clean Harbors engineers design scheduled programs that maintain cleanliness and peak efficiency. The



A Clean Harbors Industrial Services field technician is a key component to the safe and effective execution of services within a client's facility.

company offers internal pipeline rehabilitation and coating, pipeline cleaning, hydrostatic pipeline testing, pipeline dehydrating (drying), pipeline inspection services and on-stream mechanical cleaning.

• Emergency response. Clean Harbors is recognized as the preeminent emergency response provider. Each year, Clean Harbors manages more than 3,000 environmental emergency responses and disaster recovery operations on land and water throughout North America. With the ability to respond to small emergency needs as well as catastrophic spills and releases at the plant, at the dock, or inland at a pipeline or well, the company services bulk storage terminals, refineries, chemical/petrochemical, utility, and oil and gas production sites.

Apollo Onsite Services

Clean Harbors Apollo Onsite Services offers custom-designed, in-plant staffing programs that place select, experienced and cross-trained employees on location to support the industrial and environmental service needs of customers. Forty-hour trained and certified workers and dedicated onsite equipment meet the needs of any situation.

With Apollo Onsite Services, plant management can turn to a single on-site



A Clean Harbors Industrial Services field operations supervisor reviews a comprehensive work plan prior to starting the job.

organization to handle industrial and environmental services with the assurance that the staff is highly trained and competent. The Apollo team supports the plant's staff and procedures to enable plant management to focus on production while Clean Harbors concentrates on in-plant services and environmental programs. Tasks include hazardous and nonhazardous waste management, regulatory compliance services, container tracking services, in-plant industrial maintenance, outage and turnaround services and emergency response — and numerous other services in the Clean Harbors portfolio.

A look to the future

Today, McKim still rolls up his sleeves, and under his active management, Clean Harbors is positioned to continually expand its services for refinery, chemical, petrochemical, power and utility companies.

"My goal when starting the company was not anything special other than a strong desire to run my own business and be successful at it," said McKim. "We've come a long way since our first tank cleaning. Now, Clean Harbors supports many of the largest global industrial companies with unmatched, world-class industrial and environmental services. We maintain our hard working 'can do' ways and will continue to deliver real value to our customers in the future."

For more information about Clean Harbors, visit www.cleanharbors.com. For Environmental Services, call (800) 645-8265. For Industrial Services, call (877) 215-9730.



We Earn Our Place.

Health and safety— a higher level of service technical excellence— and our total commitment to your needs— earn our place with you.



OUR SERVICES

Decoking/pigging Catalyst technologies High pressure services Chemical cleaning services Material processing Vacuum services Outage and turnaround services Container management Waste disposal Pipeline services Emergency response



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