Deer Park Community Advisory Council
Question of the Month

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Question 1. What Are Flares

Answer: Flares are safety and environmental devices designed to safely burn off excess gas from chemical plants or refineries. At the March 2016 meeting, one of the DPCAC plants explained the following and provided the attached diagrams of equipment from which gases may be routed to a flare. A flare is a safe and environmentally friendly alternative to sending excess gas to the atmosphere. It works similar to burning natural gas on a stove top. Flares are designed with a pilot device that ignites the gas exiting the system to ensure the hydrocarbons/chemicals are safely combusted into carbon dioxide and water vapor before entering the atmosphere. Flare pilots stay lit (similar to water heaters) at all times. Size and brightness of the flame depends on the amount of gas going to the flare. Flares are used primarily in two situations: Emergency – process flow is interrupted by an emergency (equipment or power outage), the excess gas goes to a flare. Startup/Shutdown - flares help the plants safely manage the wide range of gas production that can occur. *(#1 -- March 2016 – Dow Deer Park)*

Question 2. When a Truck/ Railcar Leaves a Plant Site, Who is Responsible?

Answer: Industry is often asked who is responsible for cleaning up a spill once a truck or railcar leaves an industrial facility. Regulations lay out who is responsible for what. According to Texas Commission on Environmental Quality regulations, if a truck or railcar has left a manufacturing facility and is in an accident that causes a container to break open and spill chemicals, the owner or operator of the truck or railcar is responsible to initiate spill containment and clean up. However, the manufacturer of the chemical still needs to provide expert advice on response and containment by providing Safety Data Sheets (SDS) or assisting with cleanup. The TCEQ may step in and conduct cleanup if they think cleanup is inadequate and then send a bill for their services. Many Deer Park CAC plants are members of the American Chemistry Council and thus committed to its Responsible Care program, whose principles call for exercising stewardship in various ways over the lifetime of the products your company makes. *(#2 -- April 2016 – Evonik)*

Question 3. What Is Underground Injection of Hazardous Aqueous Waste in Deepwells?

Answer: Underground injection of hazardous waste is a widely used management method for hazardous waste disposal. "Deepwell" use is governed by EPA and State regulations as well as stringent permitting, design, and operational requirements. The EPA instituted the Underground Injection Control (UIC) program for the purpose of protecting Underground Sources of Drinking Water (USDW). Additional regulations were added to injection wells that injected hazardous waste. They include what is commonly known as a "10,000 year No Migration Petition." These permits are very strict in terms of the geologic criteria where injection can occur. Only geology that confines the injection between impermeable layers like shale is allowable. Injection wells are designed with concrete and steel casing to protect any potential underground water sources. A separate annulus between the casing and the injection pipe is filled with fluid which is kept at a higher pressure so that, even in the event of a leak, the injection fluid will be injected. *(#3 -- May 2016 – Texas Molecular)*

Question 4. How Does the Industry Prevent, Mitigate and Control Their Impact on Our Community/Environment?

Answer: When it is determined that the environment or local communities may be affected by industrial activities, it is necessary to address potential impacts through the application of appropriate prevention, mitigation control and management measures. Different technologies and approaches can be used depending on the local circumstances. but there is no one "right technology or practice" that can apply to all situations. Specific measures can be applied to prevent or limit impacts within the response and remediation capabilities to the environment. For example, the petrochemical industry works in partnership with government agencies to prevent spills and maximize emergency preparedness and response.

Examples of specific measures include the following: metrics to measure performance, product stewardship; haz-com (hazard communication) training; management of waste streams; methods to keep up with regulations and laws; feedback from interested parties, the community, DPCAC, and Deer Park Local Emergency Planning Committee (LEPC); employee training; sustainability efforts; "meet and exceed" goals. *(#4 – August 2016 – Valvoline)*

Question 5. What is an OSHA Recordable Injury?

Answer: OSHA, the federal Occupational Safety and Health Administration, regulates workplace safety for all of private industry, both goods-producing and service-providing. OSHA also has some data on safety in state and local government. A "recordable" is a work-related injury or illness that must be *recorded* on an OSHA log, which must be available if OSHA inspects. Fatalities must be *reported*, not just recorded, as must inpatient hospitalization, amputation, and loss of an eye. In simplest terms, an OSHA recordable is an injury requiring a doctor's intervention. The range is wide. A recordable could be a simple as being given prescription medicine or as serious as surgery. The worst cases would be fatalities. Lost-time cases occur when the worker is unable to come to work. Restricted duty cases are those in which the person can work but not do his or her usual job. Other recordables are less serious injuries. The OSHA recordable rate, used for all kinds of business, is based on 200,000 work hours, the number worked by 100 people in 12 months. The number of hours worked at a specific business affects its recordable rate. In a big company, one injury may produce a rate of less than 1 per 100 injuries in a year. In a small company, one injury results in a high rate. The chemical industry typically has better recordable rates than manufacturing as a whole and safer than education and health services. *(#5 – September 2016 – Facilitator)*

Question 6. What Is API and Its Significance to the Oil and Gas Industry?

Answer: API is the American Petroleum Institute, a national trade association representing all segments of the oil and natural gas industry. Its 625 member companies include producers, refiners, suppliers, marketers, pipeline operators, marine transporters, and the various service and supply companies that support the industry. For more than 85 years, API has developed standards and recommended practices to promote the use of safe interchangeable equipment and proven and sound engineering practices. Many of these 685 standards and recommended practices have been incorporated into state and federal regulations, and some are used globally. Typically, API standards are updated every 5 years, incorporating the lessons learned by member companies' experiences. API also issues weekly statistics on oil and gas inventories, production, imports, and capacity. Click here for details. *(#6 – October 2016 – Shell Deer Park)*

Question 7. What Is Burned in an Incinerator?

Answer: Clean Harbors is a permitted incineration facility in Deer Park that stores and treats hazardous, non-hazardous, Toxics Substances Control Act, and medical waste. Clear Harbors also provides incineration services for witness burns to the Drug Enforcement Agency, Department of Homeland Security, and various police forces. One of its kilns can burn 20,909

lbs/hr of waste at 1906 ° Fahrenheit or more and 16,848 lbs/hr of liquids in its afterburner at 2112 ^{0} F. A second kiln can burn 23,545 lbs/hr at a normal operating temperature of 1968 ^{0} F. The rotary reactor kiln can handle 15,892 lbs/hr of soils and other materials at 1429 ^{0} F. The facility is permitted to burn both solid and liquid hazardous waste. Haircolor is one of the common nonhazardous wastes they incinerate. *(#7 – November 2016 – Clean Harbors Deer Park)*

Question 8. How Does the Manufacturing Industry Manage the Safety of Contractors?

Answer: Manufacturing plants may utilize contract labor to operate or maintain the facility or do a particular aspect of a job because they have a specialized knowledge or skill or for short periods when there is a need for increased staff quickly such as in turnaround operations. Therefore it becomes important to ensure that the contractors performing these jobs work safely and do not endanger themselves, other workers at the facility, the process or the environment. When selecting a contractor, the employer evaluates information regarding the contractor's safety performance and programs, ensures that the contract employees understand the hazards of the process and the emergency action plan, and have safe work practices in place to ensure they will perform their duties safely. The contract company is responsible to ensure that their employees are trained in the work practices necessary to perform their jobs. A lot of the companies in this area require contractors to go through the Houston Area Safety Council Basic Plus training which covers a lot of the OSHA mandated contractor training as well as Site specific training. *(#8– January 2017 – Hexion)*

Question 9. What are OSHA's Standard Interpretation Letters?

Answer: OSHA frequently publishes interpretations and guidance documents related to its standards. These interpretations and guidance documents are known as advisory documents. The purpose of these advisory documents is to advise employers and employees on a variety of issues related to health and safety in the workplace.

One resource businesses have to determine compliance with interpretation of OSHA regulations is OSHA's collection of standard interpretation letters, which are official responses to written questions about compliance with the agency's requirements.

There are several ways to search the OSHA web site for standard interpretation letters, including by date, standard number, and key word. For example, if you want to review OSHA's standard interpretation letters on the training requirements under OSHA's hazard communication standard, you could type key words into the search field. You could also search by the standard number if you know it.

Writing a letter isn't the only way to get information from OSHA. You can also contact OSHA by calling the toll-free number at 1-800-321-OSHA (6742), submitting an e-mail question through the electronic mail form on OSHA's Web site, or calling your local OSHA Area Office.

However, if OSHA has not issued a standard interpretation letter that addresses your question, the only way to get an official OSHA response is the old-fashioned way – by writing a letter and mailing it to OSHA. OSHA posts selected responses that it thinks will be helpful to others on its standard interpretations web page.

The next time you visit OSHA's Web site, take a moment to review the collection of standard interpretation letters. They can be a valuable resource for businesses seeking guidance on OSHA requirements. If you don't find the answer to your question, you can write your own letter to OSHA.

It's important to note that OSHA requirements are set by statute, standards, and regulations. OSHA's interpretation letters explain these requirements and how they apply to particular circumstances, but they don't create additional employer obligations. Advisory documents do not have the force and effect of the law. Therefore, OSHA cannot issue citations to employers based on violations of advisory documents. Source: nsc.org, osha.gov. *(#9– February 2017 – Delta Companies Group)*

Question 10. How Important is the Chemical Industry to the Texas Economy?

Answer: According to the Texas Chemical Council, Texas is the largest chemical producing state in the United States. The Texas chemical industry is the second largest manufacturing industry in the state and is responsible for $166 billion in annual output. The industry employs 77,560 Texans directly and another 435,150 Texans in related jobs for a total of 512,710 state jobs. The total payroll for employees working in the Texas chemical industry is $8.1 billion, and Texas chemical wages average $104,800 per year – that's 47% higher than the average manufacturing wage. Texas chemical manufacturers contribute $750 million in state and local taxes and $3.3 billion in federal taxes. They also invest $5.5 billion per year to build and upgrade manufacturing facilities throughout the state. The chemical manufacturing industry is clearly a very important contributor to the Texas economy. Source: Texas Chemical Council website (www.txchemcouncil.org) *(#10– March 2017 – GEO Specialty Chemicals)*

Question 11. What is the difference between standards and regulations?

Answer: A standard is a document approved through consensus by a recognized (standardization) body, that provides, for repeated and common use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is **not mandatory**. It may also include or deal exclusively with terminology, symbols, and packaging, marking or labeling requirements as they apply to a product, process or production method. A regulation is a Government document that lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which **compliance is mandatory**. It may also include or deal exclusively with terminology, symbols, and packaging, marking or labeling requirements as they

apply to a product, process or production method. No consensus is necessary for establishment of the regulation. In short, the difference between a standard and a regulation lies in compliance. While conformity with standards is voluntary, regulations are by nature mandatory. *(#11– April 2017 – Intercontinental Terminals Company)*

Question 12. How do you prevent heat-related illness during the summer months?

Answer: Heat stress is the first indication of heat-related illness. If steps are not taken to regulate body temperature, it may advance to heat exhaustion and then to heat stroke.

- Heat Stress -- Exposures to temperatures above 90 degree F, sun exposure, high humidity where the body can no longer regulate its temperature.
- Heat Exhaustion -- Continued exposures to heat where the body has depleted fluids and results in fatigue, sweating, nausea, slightly elevated body temperatures, pale and clammy skin.
- Heat Stroke -- A severe condition where the body can no longer regulate its core temperature resulting from prolonged exposure to excessive heat and characterized by cessation
  of sweating, severe headache, high fever, hot dry skin, and in serious cases collapse and coma.

Plants rely on both worker knowledge and supervisory oversight to keep workers cool and hydrated in the heat. For example, annual training gives workers information about how to recognize and prevent heat-related illness. Such information also may be displayed throughout the plant. Breaks may be mandated at certain intervals. Water is available throughout the plant. The individual is the best judge of how they are feeling, and employees are encouraged not to take chances. *(#12– May 2017 – The Lubrizol Corporation)*