#### A QUARTERLY PUBLICATION OF HSEQ DEPARTMENT













**OIL & GAS DEVELOPMENT COMPANY LIMITED** 

## OGDCL conferred The 12th Fire Safety Award

OGDCL won 'fire safety award' at the 12th Fire Safety and Security Awards 2022. The company was invited to attend the award ceremony of the "12th Annual Fire Safety Award" organized jointly by National Forum for Environment and Health (NFEH) and Fire Protection Industry of Pakistan (FPIP) on November 23, 2022. After the professional review by experts, the Jury fully affirmed the implementation of the work in the field of fire safety and the popularization of fire safety by OGDCL and positively recognized its efforts. The Jury decided to commend and reward OGDCL based on overall emergency prepared and response planning initiatives, and subsequently the award-decision was agreed and approved by NFEH and the governing bodies of the FPIP. Mubashir Subhan, Umar Farooq and Muhammad Saifullah represented OGDCL and received the 12th Fire Safety Award on behalf of management. The Sindh Governor, Kamran Khan Tessori gave Awards & Shields to 50 different organizations for showing excellence in the field of fire safety. While addressing as the Chief Guest at the 12th Fire Security & Safety Convention-2022, Sindh Governor, Kamran Khan Tessori said that every owner of a residential and workplace building should fulfill the civic responsibility of ensuring fire safety measures at the premises where people live or work and people should adopt fire safety measures irrespective



of the high cost of such systems that often becomes unbearable due to high inflation. Ruqiya Naeem, Secretary General, National Forum for Environment and Health, Engr. Nadeem Ashraf, Project Head AFSSC and VP, National Forum for Environment & Health and others also addressed during the event. Session concluded by NFEH President, Muhammad Naeem Qureshi, saying that NFEH in collaboration with the relevant agencies would organize more such valuable events.

#### **Process Safety** Management Foundation Course



A comprehensive Process Safety Management Foundation Course was conducted at Dakhni on November 02-03, 2022. Saghar Mehboob, HSEQ Rep. Nashpa, was the Course Facilitator. The course was based on OSHA's PSM Elements and DuPont's PSRM Model. In the course, participants learned a) how to identify process safety and major accident hazards in facilities and to assess their risks and define critical controls (barriers); b) understand the concepts of static and dynamic barrier management. use of barrier management to analyze process safety and root cause incident investigation; c) characteristics of different types of barriers: hardware (plant), human (people) and organizational (process); d) managing process safety risks, by providing governance and structure in terms of showing commitment of the organization to process safety, understanding hazards & their associated risk, managing risk in operations, maintenance & learning from incidents; and e) good-industry practices related to the individual PSM elements. This standardized course was meant for those responsible for implementing process safety management in their domains like Area & Plant Managers, HODs (Operations & Maintenance), Senior Engineers (e.g. Design, Reliability & and Inspection). The program was based on a mix of interactive lectures, breakout sessions and worked cases. Delegates from Chanda, Nashpa and Dakhni Plant participated in the training. All the participants were extremely keen to have learned the Process safety fundamentals especially the very vibrant and energetic team of Dakhni.







#### OGTI CONDUCTS 3-DAY BEHAVIOR BASED WORKSHOP

# ACCIDENTS PREVENTION AND INVESTIGATION IN OIL & GAS SECTOR THROUGH ROOT CAUSE AND FAILURE ANALYSIS (RCFA)

A 3-day Workshop on "Accidents Prevention and Investigation in Oil and Gas Sector through Root Cause and Failure Analysis (RCFA)" was arranged for the field personnel of seismic parties, drilling rigs and gas processing plants at OGTI which was conducted by Muhammad Mubashir Abbas, Manager InCharge (HSEQ)/ Lead HSEQ Instructor (OGTI), from December 14 to 16, 2022 to impart knowledge on RCFA to enable professionals to identify & eliminate causes such as potential or design root failures occurring in complex systems, subsystems, and components. Moreover, another objective was to share the concepts needed to effectively perform troubleshooting investigations to fundamentally find & solve rig sites' and plants' equipment failures to run operations on prudent basis.



#### **OIL & GAS TRAINING INSTITUTE**



Workshop on Accident Prevention and Investigation through Root Cause Failure Analysis (RCFA)

December 14-16, 2022



**Course Outline:** Root Cause Analysis methods like Bowtie Analysis, Swiss Cheese Diagram, Cause & Effect (Fishbone) Diagram, STEP (Sequentially Time Event Plotting), Failure Mode and Effect Analysis (FMEA) and Fault Tree Analysis (FTA) were discussed in detail. Safety pyramid; 4M; Learning Cycles; Maintenance Strategies (Reactive, Periodic, Predictive and Proactive); Questioning & interviewing techniques; Components analysis (Forensic results); and Leading & Lagging Indicators were also taught with practical examples and implications.

**Methodology Applied:** The intensive 3-day course program consisted of a blend of tutorials, workshops and hands-on activities (case studies). The participants worked in five small teams, each led by an experienced fellow. Every participant worked within the team through each phase of an RCFA scenario with face-to-face interventions and a variety of corporate documents, checklists, questionnaires and tested results to simulate the execution of an actual investigation.

Lessons Learned: The main lessons learned (as observed from the feedback of delegates) a) safety pyramid & leading indicators should never be neglected; b) recurrence of accidents can be avoided if RCFA is properly applied through triple loop learning; c) accurate documentation is the backbone of RCFA; d) if tactfully applied in the workplace, RCFA certainly reduces the cost of maintenance & the cost of failure (revenues are sustained); and e) a forward looking culture instead of reactive culture if encouraged, certainly reduces production expenditures.

**Wrapping up:** Acknowledgment was conferred in the end to the participants who successfully completed the course with the remarks from course management that they were privileged to have organized such modern course on RCFA which has given very useful practical RCFA knowledge and tools to be applied in OGDCL's workplaces and would continue to offer this productive course in future as well.

Two Exclusive Sessions at KPD-TAY/Kunnar Plant

# **Carbon Footprint Estimation**

#### **Using Fuel Analysis and Mass Balance Approach**

Carbon Footprint Study of KPD-TAY Plant was conducted from Oct. 15 to 21, 2022. The In-house team employed its resources to identify and measure potential Green House Gas (GHG) emissions. Fuel analysis approach was used for the estimation of carbon foot prints study. Based on the study results, it was decided that GHG emission inventory will be developed/ maintained to identify and carry out periodic monitoring at plant.

Moreover, installation of continuous monitoring system, investment in the pollution control technologies and utilization of sophisticated equipment to control flare emissions were proposed. In-house fugitive emission monitoring and optimization of process parameters will be carried out to identify major and minor leakages leading to better plant performance and fewer emissions.



After the conclusion of study, 3-day interactive training session on Carbon Footprints Estimation Using Fuel Analysis & Mass Balance Approach was conducted by Jamal Shahid InCharge HSE Rajian along with Hamza Bin Sohail InCharge HSE Bobi at KPD-TAY/Kunnar LPG Plant & Oil Field, Distt Hyderabad on 22-24 October 2022. The detail of topics covered in the subject training session is given below:

#### **Trainer 1: Jamal Shahid**

- Introduction to Carbon Footprint
- Introduction to Greenhouse Gases (GHG): Methane (CH4), Carbon dioxide (CO2), Nitrous oxide (N2O) and Fluorinated gases
- Causes and Sources of Carbon Footprint and Greenhouse Gases (GHG)
- The Kyoto Protocol (KP); The Paris Agreement and Greenhouse Gases
- Identification of Potential GHG Emission Sources in an Oil & Gas Industry
- Carbon Footprints Estimation in Oil & Gas Industry using the guidelines of API Compendium
- Impacts of GHG on the Environment and Strategies for Reduction

#### Trainer 2: Hamza Bin Sohail

- Introduction to Greenhouse Gas Protocol Standard
- Greenhouse Gas Accounting Principles
- Organization Boundaries
- Operational Boundaries
- Tracking emissions over time
- Calculating Emissions
- Reporting & Review

The training session was attended by 11 participants who participated with zeal & zest.

## Hazard Operability Study

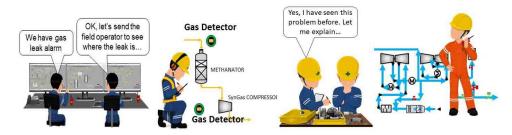
# **Wali Field Development Project**



HazOp Study was conducted on 13th and 14th December, 2022 at Ramada Plaza, Karachi under the supervision of Independent Hazop Chairman, Mr. Steve Cox along with Petrochemical Engineering Consultants (PEC) and OGDCL team members. HazOp was performed in line with IEC 61882 HAZOP guide. Using standard HazOp guidewords and deviations, a multidisciplinary team brainstormed for each node, identifying credible causes and consequences. Its scope was limited to Wali Field Development Project.



The scope was divided into 16 nodes. For each node, HazOP team brainstormed causes, consequences of deviations of various operating parameters from normal e.g. Pressure — High/low, Level-High/low etc. On day I, team covered HazOp of well site, gas gathering area, slug catcher and gas processing area. On day II, oil processing area, utilities, SCADA, F&G system and firefighting network was taken up. All consequences were risk ranked according to OGDCL risk matrix, existing safeguards were listed, and mitigated risk ranking was done, where there are no existing safe guards or existing safe guards deemed inadequate, recommendations were generated to bring the risks to acceptable levels. The study concluded with action points as well as ten recommendations to be closed out by the teams responsible for timely and safely completion of the project deliverables before commissioning phase.



## **Tour-De-PNRA**



On December 08, 2022, an educational delegation from Head Office visited Pakistan Nuclear Regulatory Authority (PNRA) Facilities to gain an in-depth insight of the operations and potency of the organization. The visit was spearheaded by Muhammad Habib Akbar Senior HSEQ Engineer. The delegates reached PNRA Head Office at 10:30am. After a cordial welcome by Abdur-Rahman (Director PNRA) and his team, a comprehensive presentation concerning the structure and fundamental functions of PNRA was delivered by Nazia Hafeez. She introduced PNRA that it is an organization of Pakistan, which is directly in contact with IAEA (International Atomic Energy Association) which on the basis of data from 52 to 58 member states makes regulatory guidelines and disseminates; whereas IRCP (International commission on radiation protection) is a body under IAEA, which revises regulations on the basis of research. It was elaborated that PNRA is a nuclear regulatory authority at national level which was established with the promulgation of PNRA Ordinance on January 22, 2001. PNRA was empowered to regulate nuclear installations, radiation facilities and associated activities in the country under this ordinance. PNRA ensures enforcement. The Ordinance also mandates PNRA to take enforcement actions in case of violation of the regulatory requirements. The Ordinance entrusts PNRA to establish and implement regulations, grant licences and perform inspections of all types of facilities and activities under its regulatory domain to ensure compliance. After getting licensed, the licensee reports to PNRA annually and the data is then compared with that of baseline year.

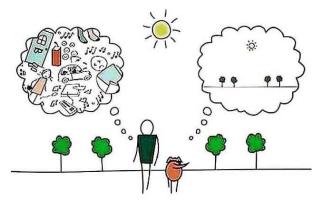
Focused areas of the visit were Environmental Monitoring and Dosimetry Laboratory. Delegates were given a unique opportunity to visit and observe the dosimetry labs comprised of internal and external dosimetry, which are designed for environmental monitoring and dose assessment of the radiation. Moreover, there was an instrument calibration lab., which is the only one in the country. The key equipment contained within in the laboratory were Gamma spectroscopy system, Alpha spectroscopy system Liquid scintillation analyzer, Gross alpha/beta counting system, External dosimetry systems and Internal dosimetry systems Gamma beam irradiator. The participation and contribution of the delegates was impressive from learning outlook, and all the queries were justly entertained by the hosts.

# W O R K S H O P HSE LEADERSHIP



HSEQ Department in collaboration with OGTI arranged an Exclusive Workshop at OGTI on "HSE Leadership" for developing comprehension & leadership role of Line Management (for support services/ non-technical domains) towards HSE. Line Management (HODs, Area & Location Management) were trained to understand the HSE performance indicators. They were also made conversant with range of occupational health, safety and environmental risks in their own part of the organization (Directorate) and to give proportionate attention to each of them through monitoring & barriers/ controls capitalizing STOP intervention system. Training was conducted in two batches, on November 21-22, 2022 (Batch-I) & November 23-24, 2022 (Batch-II). Workshop Facilitator was Akhtar Quddus — an International Safety Consultant & Master Creative Trainer, Risk Manager, Auditor and Coach with over 40 years of diversified experience.

Mind full vs Mindful



Learn to be present and enjoy the moment.

#### **Course Contents:**

HSE Leadership Workshop, Leadership Commitment, Responsibility & Accountability, Clear line of sight between HSE & corporate business vision, Attributes of High-Performance Leaders — The Triple "A" plan, Visualizing, Role modelling & leading to achieve operational excellence, Lifesaving Golden Rules, Management Safety Audits & Behavioral Safety Audits, Line ownership and accountability for HSE goals & performance, Understanding human behaviors, errors & violations, Integrating the approach towards Risk Management, Monitoring & Audits and Incident Analysis, OGDCL Risk Management Protocol, Safety Performance Monitoring/ KPIs/ Leading & Lagging indicators, Training & Development & Competency Management, Safety Leadership Assessment exercise and STOP Intervention Program.

## NIFTECH Conducted

#### **Advanced First Aid & Rescue Techniques Training**

National Institute of Fire Technology (NIFTECH) conducted an exclusive and far reaching ADVANCED FIRST AID & RESCUE TECHNIQUES TRAINING at Dakhni Gas Processing Plant on November 19, 2022. Total 32 employees attended the session from various Sections. Instructors were Muhammad Abdul Hadi, Dy. Asst. Director (NIFTECH), Hafeez-ur-Rehman, Instructor (NIFTECH), and Muhammad Fahad, Demonstrator (NIFTECH).

#### The aims & objectives of the training were:

- Awareness on First Aid and Rescue Techniques
  Dealing with the victims on pragmatic basis
- Saving lives and minimize the impact of accidents



The Instructor began the lecture with terminologies and elaborated on the three basic steps of an emergency situation:

CHECK THE SCENE FOR DANGER: Look for anything that might be dangerous, like signs of fire, falling debris, or violent people. If your safety is at risk, remove yourself from the area and call for help. If the scene is safe, assess the condition of the sick or injured person. Don't move them unless it is inevitable to do so to protect them from danger.

CALL FOR MEDICAL HELP, IF NEEDED: If you suspect the sick or injured person requires an emergency medical care, ask a nearby person to call emergency medical services. If you're alone, make the call yourself.

PROVIDE CARE: Remain with the sick or injured person until professional help arrives. Cover them with a warm blanket if needed, comfort them, and try to keep them calm. If you have basic first aid skills, try to treat any potentially life-threatening situation without taking yourself into risk.

Following topics were discussed in detail and practical demonstration was also performed;
ABC of First Aid, First Aid Bandage, First Aid CPR, First Aid Kit List, Animal Bites, Bruises, Burns, Choking, Cuts & Wounds, Insect
Bites & Stings and Victim Rescue Techniques

It was an informative, partaking and well organized event. The training program was designed on the principles of democratic and procedural learning techniques. The instructors succeeded to attract the attention of the participants and delivered the First Aid Rescue training through class room lecture and practical session.









#### IS YOUR SWEET ENDEARING

## **COSTING THE ENVIRONMENT?**



You cannot utterly stop devouring chocolates but opt for sustainable chocolates which are available in markets. Major chocolate companies have taken steps to clean up their supply chains over the past decade, and pledged to source 100% certified ethical and sustainable cocoa. You might have noticed a FROG LOGO on a chocolate packaging, ever thought what this frog represents? It is a symbol for Rainforest Alliance, It depicts that the cocoa used for the making of chocolate is sustainably sourced. The seal means that the certified product or ingredient was produced using methods that support the three pillars of sustainability: social, economic, and environmental. Rainforest Alliance is an International organization dedicated to conserving biodiversity and promoting environmentally sustainable and socially just practices in the farming and forestry industries, primarily in rainforests, in over 60 countries.



No less than Rainforest Alliance, there are other organizations that set standards and certification for sustainably sourced cocoa, for instance Fairtrade international changes the way trade works through better prices, decent working conditions and a fairer deal for farmers and workers in developing countries. UTZ certification stands for more sustainable farming and better opportunities for farmers, their families, and our planet. The UTZ certification program enables farmers to use better farming methods, grow better crops, and generate more income. They learn how to improve working conditions, adapt to climate change, and protect the environment. Each certification takes a different approach, but they all aim to decrease the negative environmental impact of cocoa production and improve the lives of farmers. Fairtrade emphasizes labor standards and poverty alleviation, including a guaranteed minimum price for farmers. In contrast,

UTZ and Rainforest Alliance, which have merged and created a new certification standard, originally emphasized environmental protection. Though they set no minimum price, they focus on increasing farmers' incomes by helping them improve productivity and quality. In conclusion, you can satisfy your chocolate craving by opting the right brand, you can learn about your chocolate by examining the sustainable logos of aforementioned certifications putting sustainability and humanity at the forefront of their efforts.

## **Emergency and Rescue (Drowning) Mockup Drill**



An Emergency Mock Drill on scenario "Drowning of Personnel in a Produced Water Pit" was conducted at QadirPur Gas Field on December 14, 2022. Two Operators were assigned with the tasks to monitor fluid level and inspect the berms and liner condition of the evaporation pits. While walking on the edge of the pits, due to slippery surface, one of the Operators had slipped and fell into the evaporation pit 3m deep (simulated the scenario using a dummy).

#### **Positive points:**

- -Operators were working in buddy system.
- -Operators were carrying VHF radios for communication.
- -Response time of RRT was good.

#### **Areas of Improvement / Deficiencies observed:**

Ambulance driver did not use the normal route to reach the location which delayed the first aid process. Inappropriate communication about the emergency/medical situation to medic

**Lessons Learned:** Proper communication and route to be defined for the ambulance driver before departing. Immediately on arrival of the victim, the medic to be informed about the incident completely before treatment.

#### **HSE Awareness Event at Logistic Field Tando Alam**



Logistic Field Tando Alam planned an HSE Awareness Event on the 7th December 2022 with the basic theme to promote HSE awareness amongst the employees and revitalize the significance of HSE protocols/ policies and work procedures. Such events play a pivotal role to bring about positive change in the overall safety culture of the Field. Lt. Col. (R) Muhammad Arshad Manager (Logistics) was the Chief Guest of the event. The day was started with a Tree Plantation Campaign at the Base Camp. A Safety Walk was organized from the Admin Building through main security gate up to the main event canopy, led by Manager (Logistics). The event included various games and HSE-related competitions to promote the importance of physical activity for overall wellness. Employees of all age groups (officers & staff) participated in the games and competitions including Cricket, Badminton, Table Tennis, Crossword, Hazard Hunt through STOP Cards and One Question One Prize Competition. Chief Guests distributed shields, trophies, and gift hampers among the successful teams and individuals of different sections. Manager (Logistics) lauded in his speech the efforts of the undersigned and Line Management Tando Alam Logistic Base especially in the promotion and betterment of the HSE culture in the Field through training, awareness sessions, and also congratulated the HSEQ Section for organizing such a well-planned event.



**Training on Integrated Waste Management Protocols** 

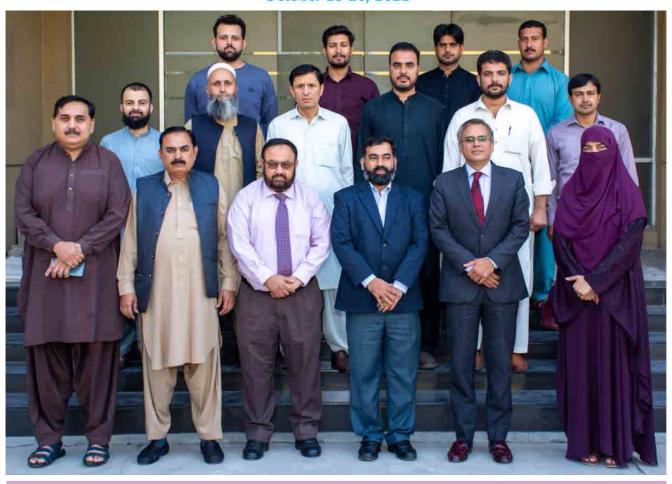


#### OIL & GAS TRAINING INSTITUTE



# Integrated Waste Management Protocols in Oil & Gas Industry

October 25-26, 2022



Oil and gas E&P Sector's "generated-waste" is any material that is either solid, liquid or mixture that is surplus to the requirements; not only, there is concern from the federal/ provincial EPAs but also from an organization's management that all generated wastes be properly managed in order to minimize their potential to cause harm to health or the environment. Effective and responsible wastes handling & disposal are the key elements of an environmental management system and efficient management of generated wastes can reduce operating costs and potential liabilities substantially if circular economy philosophies are taken into account. In this perspective, training was designed by Muhammad Sameem Hussain Qaiser and delivered with an intent to impart clear cut roles and methods to ensure adequate and effective handling & disposal of generated wastes as required within regulatory requirements. The main topics covered were how to prevent/ minimize emissions, effluents, spills, dumping, composting etc. into the air, water and soils for protecting of the echo system (air quality, landscapes, surface water & ground water, flora, organisms & wild life) — its restoration & wellbeing as well to incite and stimulate behavioral change among our workforce and the communities to initiate contribution towards managing the generated wastes.

# **Public Hearings**

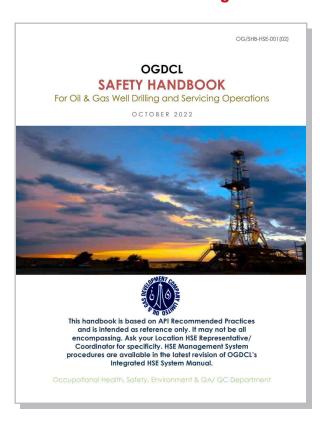
of Nashpa-11, Chanda-07, Wali-02 and Wali Field Development Project conducted in Khyber Pakhtun Khawa

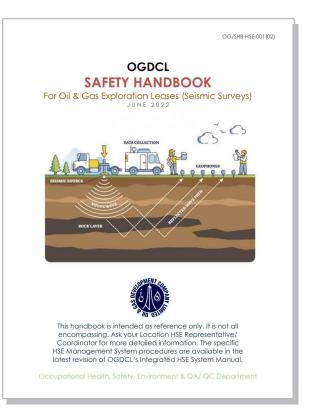
OGDCL hired the services of renowned environmental consultants — M/s EMC and M/s SGS to conduct Environmental Impact Assessment (EIA) studies of Nashpa-11, Chanda-07, Wali-02 and Wali Field Development Project. The EIA reports were timely submitted to Environmental Protection Agency (EPA), Khyber Pakhtun Khawa (KPK). In this regard, public hearings of Nashpa-11 was scheduled on October 11, 2022 at Rural Health Centre Jandri District Karak and for Chanda-7 on October 12, 2022 at Model School Shakardara District Kohat; whereas the public hearings of Wali-02 and Wali Field Development Project were scheduled on December 20, 2022 at Tehsil Office Tajori, District Lakki Marwat.

Teams comprising of relevant personnel from H.O., operating fields, drilling rigs and RC Office participated in the hearings on schedule. There was a considerable representation of locals in the light of stakeholders' consultation and to discuss the concerns. Most queries were related to drinking water scarcity, wildlife migration, CSR schemes and employment, which were promptly replied there and then. Director EPA KPK from D.I. Khan presided all of the both hearings accompanied by Deputy Director, Assistant Director HO Peshawar. After successful completion of the public hearings, EPA officials informed that they will compile a detailed report of the proceedings for submission to DG (EPA) KP for issuance of environmental approvals.

## **Updated Safety Handbooks Published**

for Oil & Gas Well Drilling and Servicing Operations and Seismic Surveys





#### SAFETY OUT OF FOCUS

## **DuPont's La Porte Accident**



On 15th November 2014, a worker was incapacitated at a DuPont chemical manufacturing facility in La Porte, Texas when a supply line unexpectedly released around 20 tonnes of its product called methyl mercaptan — a chemical used in the manufacture of insecticide and fungicide. Three colleagues came to the worker's aid but all four were asphyxiated by the highly toxic flammable gas and subsequently died. Serious process safety shortcomings identified after the incident investigation: The process included several interconnections between the methyl mercaptan supply line and a chemical vent system, which allowed a toxic leak into an unexpected location...The chemical vent system...had a design shortcoming that allowed liquid to accumulate inside...The liquid needed to be manually drained by operators to prevent safety issues from interconnected equipment, such as reactors....work-

ers were exposed to whatever chemicals were drained from the vent system. The building was designed in such a way that even had ventilation fans been working on the day of the accident, it would likely not have effectively protected workers from chemical exposure. ... those ventilation fans were not, in fact, working at the time of the accident.

**Chemical Safety Board (CSB) Final Investigation Report:** Lead Investigator Tamara Qureshi said, "The CSB's investigation determined that the cause of the toxic chemical release was a flawed engineering design and the lack of adequate safeguards. Contributing to the severity of the incident were numerous safety management shortcomings including deficiencies in formal process safety culture assessments, auditing and corrective actions, and troubleshooting operations." The CSB's investigation identified weaknesses in the DuPont La Porte safety management system, which failed to a strong process safety culture.

#### The incident offers important LESSONS for the chemical industry, relating to the following areas:

**Emergency Response:** The emergency response efforts at the La Porte facility were disorganized and placed operators, emergency responders, and potentially the public at risk. Chemical plants need a robust emergency response program to mitigate emergencies and protect the health of workers, emergency responders, and the public.

**DuPont's Process Safety Management System:** While DuPont created its own corporate process safety management system, the investigation found that the DuPont La Porte site did not effectively implement it, nor did it formally evaluate its process safety culture before the November 2014 incident. Assessing safety culture is critical to effectively gauging process safety.



**DuPont La Porte's Process Safety** 

**Management Deficiencies:** DuPont's corporate process safety management system did not identify, prevent, or mitigate significant process safety deficiencies at the DuPont La Porte facility that contributed to the incident. A company must effectively implement a process safety management system and its corresponding programs to reap the accompanying process safety benefits.

**DuPont La Porte's Employee Incentive Program:** The DuPont La Porte bonus structure may have dis-incentivized workers from reporting injuries, incidents, and "near misses." Ensuring that employees can report injuries or incidents in accordance with regulations, without fear of discrimination, retaliation, or other adverse consequence is central to protecting worker safety and health, and aiding accident prevention.