CAREER EPISODE 1

Process Implementation and Refining of Petroleum Oil

A) Introduction

[CE 1.1]

The project "Process Implementation and Refining of Petroleum Oil" was done during my work tenure as Petroleum Engineer at China Huanqiu Contracting & Engineering Corporation Ltd. The work duration was from [Date] – [Date].

B) Background

[CE 1.2]Explain nature of the project

When I recovered crude oil from the surface I delivered and processed it into usable petroleum goods. After that, I transferred the items to end-users or dealers (like gasoline places or the business that delivers heating petroleum to users' houses, if the user has an oil furnace). I categorized the whole well-to-consumer distribution system for petroleum goods into 3 parts.

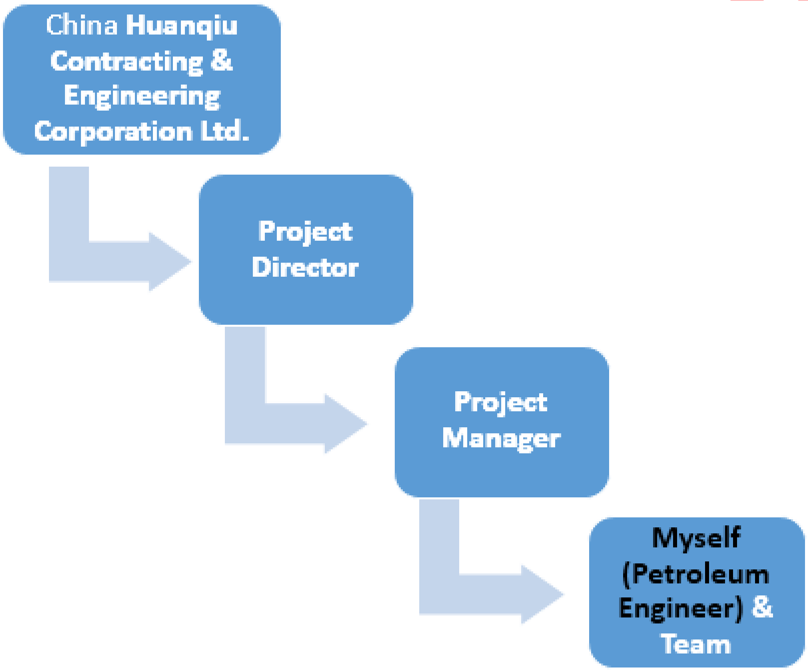
[CE 1.3]Explain objectives of the project in one project

I examined that exploration for crude oil resources and crude oil extraction were examples of offshore activity. I analyzed the corporations that control oil drilling assets (such as ExxonMobil) and corporations that offer supporting activities to the drilling component of the business were instances of organizations that were in the upward sector of the business. I worked on the transportation of oil goods to petroleum products, the processing of raw oils into saleable goods, and the transportation of goods to distributors and consumers which were all examples of midstream activity. I include the organizations that carry oil via the piping system, vehicle, or barges (e.g., Magellan Infrastructure), and businesses that process crude oil were instances of organizations that participate in the downstream section of the sector.

[CE 1.4]Explain nature of your work in one paragraph

There was also the wholesale selling of petroleum goods was part of the downward activity. I found that the most prominent downstream firms were gasoline terminals, but businesses that distribute heated oils or propane would also belong to that group.

[CE 1.5] Hierarchy



[CE 1.6] Responsibilities:

- I worked on oil volume being considered as the API major gravitation in the refinery.
- I carried out the components separating process which was dependent on the volatility.
- I worked on attaining the specific physiological qualities followed by reforming and entailing to modify the hydrocarbon chemical composition.
- I utilized and maintained the fracturing and drilling equipment.
- I worked on drilling and extractions.
- I researched methods for the extraction of gas and oil.
- I analyzed the reservoirs and rocks formation.
- I did the inclusion of the dilution which was the process initial step and then heating was done of the crude oil which was then placed or distillation.

C) Personal Engineering Activity

[CE 1.7]

I investigated that actual refining activities were extremely complex and I split the refinery's essential activities into three chemical methods:

- I worked on the distillation which was the process of separating components depending on their volatile. I followed it with crack and reformation which was the initial and most fundamental phase in the purification procedure.
- I divided the apart heavy compounds into lightweight (and much more expensive) hydrocarbons known as cracks.
- I attained specific physiological qualities, reforming entails modifying the chemical composition of hydrocarbon (and also increasing the market value of those chemicals).

I included the dilution as the initial step in the procedure. I heated the crude oil and put it into a distilling column in that procedure. Even as the average temp of the oil products in the distilling columns increases, it divides into several parts known as "fragments." After then, I collected the portions individually. I saw that based on the temperatures where each component boiled off the petroleum products combination, it correlates to a particular sort of oil product.

[CE 1.8]

I formed the cracked and reformation that were the 2nd and 3rd stages. That system shows how these techniques which I applied to the different parts generated by distilling. Because I saw that the heavier parts, such as gas oils and residual oils, become less valuable than the lightest fragments, producers use a technique known as "cracking" to break and separate the particles in these fragments. From heavier portions, that procedure I created contains certain higher-value goods. The most common use of splitting was the production of gasoline as well as jet fuel from petroleum gas lubricants. I used the reaction on lower-value lighter portions to increase the amount of gasoline produced. I entailed the reformation procedure triggering chemical processes under pressure to alter the hydrocarbons chain's makeup.I analyzed that the collection of written procedure risk assessments allows the employer and personnel required to run the process to recognize and comprehend the threats posed by HHC procedures. I utilized details on the dangers of the HHC by the procedure, as well as data about the facilities and modern used in the procedure, which must all be included in the procedure safety data. The efficient execution of all other parts of the PSM depends on the full and correct collection of PSI.As a petroleum Engineer, I executed the process implementation and refining of petroleum oil at a large oil refinery. The process began with the receipt of crude oil at the refinery. The crude oil was stored in large tanks and sampled to determine its quality. Once the crude oil was deemed suitable for processing, it was heated in a crude oil furnace to reduce its viscosity and increase its flowability. The heated crude oil was then pumped to the atmospheric distillation unit where it was separated into different fractions based on their boiling points.The different fractions obtained from the atmospheric distillation unit were further processed in different refining units such as the vacuum distillation unit, catalytic cracking unit, hydrocracking unit, and hydrotreating unit. The vacuum distillation unit was used to separate the heavier fractions from the atmospheric distillation unit into different products such as vacuum gas oil, vacuum residue, and asphalt. The catalytic cracking unit was used to convert the heavy fractions into lighter fractions such as gasoline and diesel fuel. The hydrocracking unit and hydrotreating unit were used to further refine the lighter fractions obtained from the catalytic cracking unit to produce high-quality products such as jet fuel, diesel fuel, and gasoline. Throughout the refining process, the products were monitored using various instruments such as gas chromatographs, infrared spectrometers, and viscosity meters to ensure their quality met the required specifications. The refining process generated various by-products such as sulfur and hydrogen gas. The sulfur was removed from the products using different methods such as amine gas treating and Claus process. The hydrogen gas was used in different refining processes such as hydrotreating and hydrocracking.

[CE 1.9]

I discovered OSHA errors in the location of intervening6 controls throughout NEP examinations. I discovered that there would be neither interphase avoid vessels among the vessel as well as its force respite gadget or equipment, or among the force relief gadget or equipment and the figure of release, excluding the whenever I avoided vents that were formed or strongly controlled that the closing of the largest amount of block valves feasible at one time," per the American Society of Mechanical Engineers (ASME) Boiler as well as Force Vessel Code, Category VIII (Code), an instance RAGAGEP. I obstructed the intended relief channel if intermediate valves were stopped in the case of an uncontrollable stress rise. As a consequence, stress could increase quickly, causing pipelines and containers to burst. I found that facility damage, illness, and deaths were all possible outcomes. To avoid such dangerous situations, I used proper technological and administrative safeguards and was regularly updated. I obliged corporations by the PSM guideline to have pipe and monitoring schematics on file (P&IDs). I depicted the P&IDs interconnections of the processing apparatus and the instruments needed to manage the system, as well as instructions on how to operate and alter the procedure for designers, users, and service personnel.

[CE 1.10]

I linked the actual sequencing of apparatus and components, that how these processes, must be precisely depicted in P&IDs. I analyzed that designers and users could be misled if they don't have correct, full, and up-to-date P&IDs:

- Throughout the PHA procedure,
- Whenever developing or changing operation, servicing, and replacement processes, keep the following in mind.
- Whenever it comes to obtaining work permits,

- During the deployment of new gear, and
- While debugging or keeping a process up to date. OSHA discovered that numerous petroleum refineries failed to keep accurate, full, and up-to-date P&IDs for such machinery in the operation during NEP examinations.

I examined that crude oil's density reflects how lighter or weighty it was overall. I saw that smaller particles in larger concentrations in the lightest crudes, which the refineries may turn into gasoline, aviation fuel, and diesel (for which directive was increasing). I worked on the heavier crudes that have a larger percentage of complex particles. I used the smelter in heavy manufacturing fuels, asphalt, and other heavily loaded items (markets for that were indeed less innovative and in some cases shrinking) and procedure into simpler compounds that could be utilized in transportation help fuel goods.

[CE 1.11]

I described the volume of oil as commonly in measures of API gravitation in the refinery business. I operated on the API density that was inverse proportional to API gravitation (i.e., the lighter the material, the higher its API gravity).I discovered that naturally heavy crude oils outputs from both lighter and heavier crudes surpass consumption for heavier processed goods, and the organic output of heavier oil from heavier crude was more than double that of lighter petroleum. Because of these basic properties of petroleum hydrocarbons, converters should be responsible for transforming at least part, if not all, of the heavier oil into lighter goods. I needed the more converting capability to generate any particular output lineup.One important aspect of the refining process is the determination of the crude oil's API gravity, which is a measure of its density relative to water. This value is important because it provides information about the crude oil's quality and helps determine the most appropriate processing methods.

API gravity is calculated using the following formula:

API gravity = (141.5 / specific gravity at 60°F) - 131.5

Where specific gravity is the ratio of the density of the crude oil at 60°F to the density of water at the same temperature.

For example, if a sample of crude oil has a specific gravity of 0.85 at 60°F, its API gravity can be calculated as follows:

API gravity = (141.5 / 0.85) - 131.5 = 35.29

This value indicates that the crude oil is of moderate quality, with a density lower than water and therefore suitable for processing.

Another important aspect of the refining process is the distillation of the crude oil to separate it into different fractions. This is typically done in a distillation tower or column, which is designed to separate the crude oil based on its boiling point.The distillation tower consists of multiple trays or plates that are used to separate the different fractions of the crude oil. The temperature and pressure in the tower are carefully controlled to ensure the proper separation of the different fractions.The efficiency of the distillation process can be measured using the ASTM D86 distillation test, which measures the temperature at which different fractions of the crude oil are vaporized and condensed. The results of this test can be used to optimize the distillation process and improve the quality of the products obtained.

[CE 1.12]

I analyzed that out of any of the hetero-elements in oil products Sulfur has the most impact on processing. Made thorough coordination with the project manager during the project.

D) Summary

[CE 1.13]

I found that sufficient lower sulfur amounts in refining flows could (1) disable ("poison") catalytic systems which driving force for the development of biochemical procedures in such refining procedures, (2) affect refinery hardware corrosion, and (3) result in sulfur combination air emissions, that were also unpleasant and could be subject to additional regulatory requirements.

[CE 1.14]

I saw that sulfur in car fuels causes unwanted sulfur molecule emission and interacts with automobile pollution management devices that were designed to reduce controlled outputs such as volatile natural substances, nitrous oxide, and particles. Overall, the process implementation and refining of petroleum oil was a complex and challenging process that required continuous monitoring and optimization to ensure the production of high-quality products while minimizing the impact on the environment.

[CE 1.15]

As a result, I found that refineries must be capable of removing sulfur from oil products and processing streams to the amount required to reduce these negative consequences. There was a fundamental enhancement being made in my petroleum engineering knowledge with accomplished project outcomes.

CAREER EPISODE 2

Oil field equipment Installation, Maintenance, and Operation

A) Introduction

[CE 2.1]

The project work as "Oil field equipment Installation, Maintenance, and Operation" and I worked as Petroleum Engineer in the project. The project tenure was from [Date] – [Date] and it was for [Organization] at [Location].

B) Background

[CE 2.2]Explain nature of the project

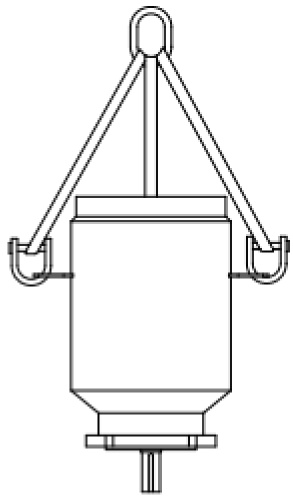
I did all modifications on the item by ITT-authorized technicians and competent electricians. Facilities in exploding atmospheric conditions were subject to additional regulations. I analyzed all users of the dangers of electric current as well as the molecular and physiological properties of the gas, vapor, or both existent in hazardous locations. I maintained ex-approved items following worldwide and local regulations.

[CE 2.3]Explain objectives of the project in one project

I checked those thermal connections that were linked to a protective circuit and that they were in use, per the product's approved categorization. I installed the level regulator in zone 0, appropriate safety circuits that were usually needed for the automated level-control system. Fastener yielding pressure must be consistent with the approved design and item requirement. I changed the gear only with the permission of an approved ITT representative and use only parts supplied by an authorized ITT representative.

[CE 2.4]Explain nature of your work in one paragraph

I discarded the product's plastic packaging. And I disposed of all packings parts in compliance with existing local restrictions. Then I examined the product to see if any pieces were absent or had been harmed. I removed any screws, bolts, or straps that were attached to the item, if available. Whenever handling nails and straps, be cautious about user security. I analyzed that when something wasn't right, the user could contact the sales distributor. I lifted the pump, without the motor, to a vertical location and afterward lesser the component into the tank using swivel hoist circles (obtainable as an alternative) and appropriate slings. Then, I used the motor's lifting lugs and an appropriate sling, to raise the engine into place.



[CE 2.6] Duties:

- I implemented checking of the device which was followed by the gearheads, rotors, and motors operational checking.
- I did an analysis of the bearing framework and physical seal without causing any specific damage to the motor.
- I did pumps placement and supporting plate on the pits covering gently when access to the presence of the bottom edge.
- I worked on preventing the warping of the pit cover and torque was set with the anchoring screws in the star design.

C) Personal Engineering Activity

[CE 2.7]

I properly prepared vertical pumps for storage and maintained them regularly while in storage. Whenever a pump was brought to a project site and was ready to be installed, it was regarded as storage. I checked the device supplier for particular storage recommendations for motors, gearheads, and rotors.

I investigated that users should observe the pumping storing criteria and that technique for preservation durations longer than six months:

- I checked the lube-oil or seal-flush pipework for erosion and either replace it with rust-preventative oils or recoat the pipes regularly.
- I closed to the middle of the pumps, and place 4.5 kg | 10 lbs of moisture-absorbing desiccant or 2.3 kilograms | 5.0 lbs of vapor-phase inhibitor particles.
- I add another 0.5 kg | 1 lb to the distribution nozzle and connect it to the distribution elbows if the device was already completed.
- I installed a humidity indication around the unit's exterior.

- I covered the device with black polyethylene that was at least 6.0 mil (0.15 mm) thick and taped shut.

[CE 2.8]

I guaranteed positive security and avoid destruction from reversed spinning, and the propeller was completely open, keyed to the shafts, and secured in check by a self-locking capscrew. To ISO G2.5, the bearings were spin balanced (single plane). I installed back vanes on the impeller to minimize axial thrust and avoid particles from entering. The impellers of that pumps do not fulfill the dynamically balanced dimensions standards. I used the EZ-Adjust (TM) bearings provider to adjust the clearances of the impeller.I made the smooth plate strainer to optimize the amount of water drawn down in a particular sump depth. I designed the slots to prevent big solids from entering, which were prevalent in open sumps. Then I provided discharge elbows to enable the pumping to fit into the shortest aperture feasible. I replaced the output tubing without pulling the pumps from the sump thanks to a fixed attachment. I carved the flanged connectors on the columns pipe to guarantee proper parallelism and keep the bears circular with the shafts. As a Petroleum Engineer, I was responsible for the installation, maintenance, and operation of various types of equipment used in oil fields. This equipment included drilling rigs, pumps, compressors, and generators, among others. The installation process involved assembling the equipment on site and ensuring that all components were properly connected and secured. I then performed various tests to ensure that the equipment was functioning correctly and to identify any potential issues. Once the equipment was installed, I performed regular maintenance to ensure that it remained in good working order. This involved tasks such as changing the oil and filters, inspecting the components for wear and tear, and performing any necessary repairs. During operation, I monitored the equipment closely to ensure that it was performing as expected and to identify any issues before they could cause significant problems. I performed regular checks to ensure that the equipment was operating within safe limits and that all safety systems were functioning correctly. One of the most critical pieces of equipment in an oil field is the drilling rig. These rigs were used to drill wells that can be hundreds or even thousands of feet deep. As a result, they are complex and require significant maintenance to ensure safe and efficient operation. I performed regular maintenance on the drilling rig, such as inspecting and lubricating the drill string, checking the condition of the drill bits, and monitoring the pressure and temperature of the drilling fluid. In addition to maintenance, I was also responsible for troubleshooting any issues that arose during drilling. This could involve diagnosing problems with the drill string, identifying and repairing leaks in the drilling fluid system, or addressing issues with the power supply or control systems.

[CE 2.9]

To ensure appropriate alignments among the engine and pumping shaft, I made motor retainers of steel and precision-machined. As a rule, I planned motor bracings for NEMA/IEC vertical C-face. It was also intended to raise the bearing framework above the mounting plate, enabling more air to flow for better cooling. I analyzed that it also makes it easier to remove the bearings framework and physical seal without causing any damage to the motor.I obtained the following that was the features of an ideal preparation:

- Bolts implanted in concrete with a piping jacket that was twice the recommended the diameter of the bolt
- Sized correctly
- According to the measurements specified in the instance picture
- There was enough room within the pipe sleeves for the foundational bolts to line with the openings in the sub-base flanges in their ultimate position.

I did the installation of the support plate with a pit cover.I examined that if accessibility to the bottom of the lid of the pit was not accessible during the setup process, the pumps (without the engine), base plates, and pit covering must be assembled and installed as a piece. I ensured that the pump stays level up and down when mounted, helping ensure the pit lid stays exactly level. I included machined, gasketed fittings around the supporting plate/pit covering and the pit coat in the vapor-proof version.

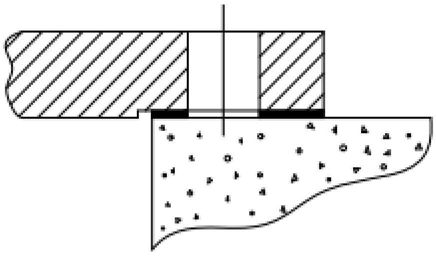
[CE 2.10]

I installed these valves to guarantee proper emissions efficiency and established an airtight seal, and bolt the pit covering to a metallic soleplate with a workpiece material.

- Lower the pit lid onto the supporting bolts with care.
- Using shims or wedges, balance the pit covering in all dimensions using as wide a leveling as feasible.
- Attach the anchoring bolts by hand. Examined the amount and, if required, re-shim.
- To prevent warping the pit cover, torque all anchoring screws in a star design.
- Place the pumps and supporting plate onto the pits covering gently if accessibility to the bottom edge was available.
- All bolts should be installed and manually tightened.
- Monitor the condition of the base plate and, if required, re-shim it.
- To prevent warping the supporting plate, secure all screws in a star design.

I attached the supporting piece without the need for a pit covering such as;

- I placed the pumps and supporting plates onto the ground bolts with caution.
- I used shims and wedges, to balance the supporting plates in all dimensions.
- If the user chooses the vapor-proof option, it was essential to follow one of these steps to ensure airtight sealing.
- I installed the anchor bolts by hand and monitor the condition and, if required I could re-shim them.
- To prevent bending the supporting plate, I tighten all anchoring screws in a star shape.



[CE 2.11]

I intended the motor supports to work with a wide range of seal covers, including those for packaging, mechanically seals, and labyrinth seals, without requiring any modifications. Before I attached the motor, make sure both connection halves were in place. Consult the connection manufacturer's directions. To gently lower the motor onto the pumps, I used the raising lugs on the engine. I made sure the bolt holes were lined up. I examined the angle of spinning of the motors before connecting the connection and the motors supporting have a rotating arrow. When I looked down at the propeller from the drive, the appropriate spinning was clockwise. I provided float controllers from ITT in a variety of configurations. I found the appropriate setup process in the floating controller assembly instructions that came with the controllers. I described the Square D 9036 Simplex and Square D 9038 Duplex float controllers in that article. I changed the collared controls on and off settings of a Square D 9036 simplex or Sq D 9038 duplexes (335). I investigated that the flow increases to meet the higher collar as the fluid levels increase, and an upwards motion of the floating rod closes the physical switch within the controller. I linked that to the starting was now complete.

[CE 2.12]

There was a thorough discussion carried out in the project which included consistently evaluating the scenarios and sorting the objectives by implementing petroleum engineering concepts.

D) Summary

[CE 2.13]

I continued the process till the water value drops below the level at which the float would make contact with the lower collar. That pushes the rod downward, allowing the switch to release as well as the pump to turn off. I saw that the operation procedure was the sole variation among the Square D 9036 simple and the Sq D 9038 duplex.

[CE 2.14]

I added the main motor in the Square D 9038 duplex that activates when the water level increases. The float may now make touch with the top collar. Whenever the water level falls and the very first motor was turned off, a lever arm within the controller changes to a pumping system, which I turned on for the following cycle.

[CE 2.15]

Petroleum engineering concepts were consistently being performed during the work which led to obtaining the required work outcomes. Overall, the installation, maintenance, and operation of oil field equipment require significant technical expertise and attention to detail. By performing regular maintenance and monitoring the equipment closely, I ensured that it operated safely and efficiently, minimizing downtime and maximizing productivity.

CAREER EPISODE 3

Inspected Gas and oil wells to identify installations

A) Introduction

[CE 3.1]

The project "Inspected Gas and Oil Wells for Identify Installations" was done during my work tenure at [Organization]. It was from [Date] – [Date] and I worked as Petroleum Engineer in the project.

B) Background

[CE 3.2]Explain nature of the project

My examination involves field operations to do a self-assessment of their good integrity management system (WIMS) to ensure conformity with applicable standards and advice, and also provide the necessary documentary proof for the inspector's examination. After that, I set role-specific questions that would be administered. I examined that risk control was especially important for compromised wells as their mature and progress through their life cycle.

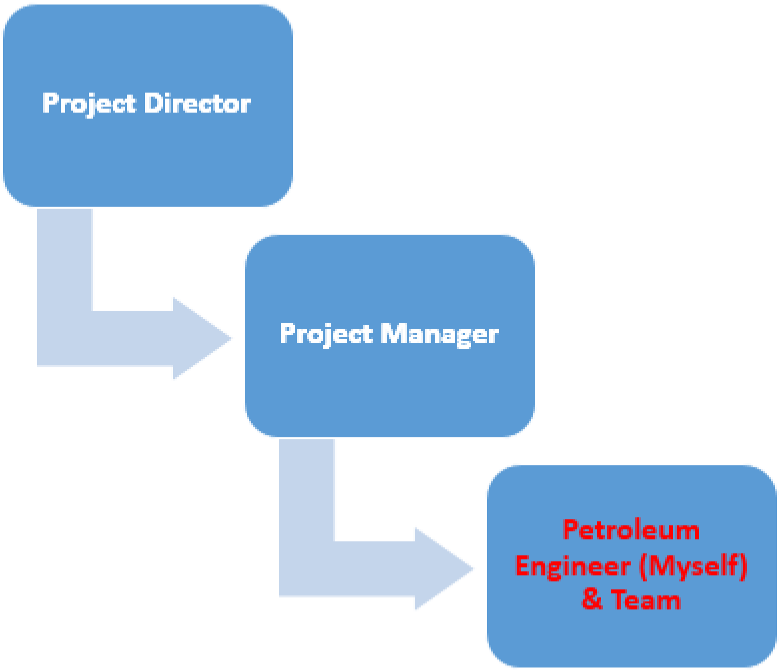
[CE 3.3]Explain objectives of the project in one project

I worked on the assessment of the main identified hazards that would be unique to the institution and may be based on issues revealed during the RoMH evaluation. I included common themes as an examination of the station board's and workforce's competence requirements, including contractors; Sampling operations to determine if the installation's SEMS was fully operational.

[CE 3.4]Explain nature of your work in one paragraph

In operations, I included sampling to evaluate the installation's flame and explosive warning and mitigating measures. What kind of independent verification mechanism has been put in place, and how complete was it? I evaluated that as to how the actual disaster reaction requirements, both for installations people escape/evacuation/rescue and for ecological sustainability, meet the requirements in the approved Internally Emergency Plan.

[CE 3.5] Organizational chart:



[CE 3.6] Duties:

- I did an evaluation of the technical activities by applying petroleum engineering concepts.
- I did removal processes examination with the precautionary measures which were taken with the selection of location.
- I utilized the flowing liquid in rotating well drills for cleansing and conditioning the counteract formation damage.
- I did the liquids' hydraulic head calculation which was in relation to the sparging to that of the water.
- I was responsible for identifying the different installations that were present in these wells.
- I evaluated various well sites and conducting thorough inspections to ensure that all equipment was functioning properly and in compliance with safety regulations.

- During my inspections, I carefully examined the various installations present at the well sites, including the wellhead, production equipment, and storage tanks.
- I checked for signs of wear and tear, leaks, and other potential safety hazards. If I noticed any issues, I reported them to the appropriate authorities and worked with the operators to ensure that any necessary repairs were made.

C) Personal Engineering Activity

[CE 3.7]

I assigned the main inspectors to that issue and should prepare for the examination by evaluating the installation's RoMH, containing risk analysis information. I determined the spectrum of plausible major accident occurrences that might require the site workers to flee or be relocated. I investigated acquainted with the installation's design charts (to recognize escape/evacuation routes, muster areas, and so on). I examined the kinds of exit and removal processes and precautionary measures that should be in location and the installation's agreements for the finished recovery of employees who've already left the setup in case of emergencies. After that, I presented a short investigation procedure outlining the ideology for the exit, rescue, and salvage safety checks, I evaluated the types of supporting documentation, the location of those who would be contacted offshore, and any physiological findings that should be made. I obtained the several questions in the format of answer sheets, which should be created to examine the key areas:

- The entire emergency response strategy for the installation.
- In the event of a crisis, the direction and control preparations were made.
- Alerting and communication in the event of a crisis.
- Evacuation routes and muster sites were safe.
- Appropriateness of the installation's evacuation methods.

[CE 3.8]

I worked on the finishing Activities and the steps were taken after a well has been completed to the point when the producing string of casings was to be installed. I established the casing, puncturing, artificial stimuli, and manufacturing checking. I completed outfitting of the well for manufacturing were also all tasks before the start of real oil or gas production in needing to pay amounts, or, in the particular instance of inoculation or provider well, previous to the wellbeing tucked and neglected.I made condensate a light hydrocarbons fluid by condensing vapors of hydrocarbons. With little or no ethane or methanol, I made up various quantities of butane, propane, propene, and higher components. I performed on the cuttings rock particles that the bit loosened and deposited on the top of the drilling fluids. I used dehydration as the process of removing water from a material. Emulsion treatment using emulsion crushers was commonly used to dehydrate crude oil. To fulfill pipeline regulations, I eliminated water vapor in natural gas a typical max permissible water vapor level was 7 lb per MMcf.I performed on the spinning machine that removes small sand grains from drilled fluid to protect the pumps from damage. A desander typically works by putting a fast-moving flow of liquid into a spinning motion somewhere in a cone-shaped container. I inspected gas and oil wells to identify installations, and my job involved visiting different sites and assessing the equipment and infrastructure in place. During my inspections, I used a variety of tools and techniques to gather data and make informed recommendations for maintenance, repairs, or upgrades. I might use a pressure gauge to measure the pressure inside the well, and then calculate the flow rate using the Bernoulli equation. I would also inspect the surface equipment, such as pumps and compressors, to make sure they were operating efficiently and safely. In addition to assessing the equipment itself, I would also evaluate the site's environmental impact, looking for signs of leaks or spills that could be harmful to the surrounding ecosystem. Based on my assessments, I would provide recommendations to the well operator on any necessary repairs or upgrades, as well as suggestions for improving efficiency and reducing costs. For example, if I noticed that a well was using a lot of electricity, I might recommend switching to a more efficient pump or compressor to reduce energy consumption.

[CE 3.9]

I used a dehydrator which was a material that absorbs water from some other molecule it comes into contact with. It could be liquid (like trimethylene glycol) or solids (like glycerol) (as silica gel).I used a spinning device comparable to a desander that removes very tiny grains, or silt, from drill fluid to maintain the number of solids in the flow to a minimum. The quicker the rate of absorption, the smaller the solids concentration of the mud.I used the flowing liquid (mud) in rotating well drills to cleanse and condition the hole as well as counteract formation damage. I included oil, a water-based drilling liquid that includes traditional drilling muddy in which liquid provides the same throughout and the suspending substrate for particles. I performed on the continuous phase of an oil-based drill fluid was usually diesel, crude, or another oil, while the dispersed component was usually water. I employed the strong seamless tube to spin the bit and circulate the drilling fluid that was known as a drill pipe. I used tool joints to connect pipe joints that were 30 feet long. I utilized the drill pipe columns or string, excluding drill collars and kelly. Nevertheless, the phrase was frequently misused to refer to both the drilling process and the drill collars. I used a process or set of technologies to bring depleted reserves back to life. Once an oil well has depleted, a certain quantity of oil stays in the reservoirs, and improved recovery aims to recover. I included tertiary and secondary manufacturing in EOR. As a Petroleum Engineer, I was responsible for visiting different gas and oil well sites to evaluate the equipment and infrastructure in place. My goal was to identify any potential safety hazards or inefficiencies and provide recommendations to the well operators on how to address these issues. During my inspections, I used a variety of tools and techniques to gather data and make informed recommendations. For example, I would measure the pressure inside the well using a pressure gauge and then calculate the flow rate using the Bernoulli equation. I would also inspect the surface equipment, such as pumps and compressors, to make sure they were operating correctly and safely. To evaluate the environmental impact of the well site, I would look for any signs of leaks or spills that could be harmful to the surrounding ecosystem. If I found any evidence of environmental damage, I would notify the well operator and make recommendations on how to clean up the site and prevent future incidents.

[CE 3.10]

I used fragmentation as a technique for improving the porosity of a formation pressure to boost output. I injected fluid downwards through tubes or drill pipes beneath extraordinarily high hydraulic stress and squeezed it into the holes in the casing. The liquid seeps into the structure, breaking it apart or fracturing it. I investigated the liquid carries sand grains, metal pellets, glass beads, and other similar elements into the fissures in suspensions. Whenever I reduced the surface level, the fractured liquid flows to a very well, and the cracks partly shut on the supporting forces, leaving pathways for oil to stream to the well.I worked at an energy station that was a facility that processes natural gas to prepare it for distribution to customers. In natural gas, a gas plant purifies the valuable hydrocarbon elements from the contaminants. I used a small-diameter pipeline to transport crude oil from oil production to a location on a major pipeline. I utilized a glycol dehumidifier which was a device that removes most or all of the liquid from a gas. I found that the glycol unit typically contains a tower where the wet gas was introduced to glycol to evaporate excess moisture and a reboiler, which warms wet glycol to drain the moisture, allowing it to be reused. I operated on hydraulic Fracking which was the process of injecting high-pressure fluids into a formation to create passageways for oil and natural gas to flow via and into the wellbore.

[CE 3.11]

I used the pressure produced by a body containing liquid at rest known as the hydrostatic head. Pure water has a hydrostatic head of 0.433 psi per foot of elevation. I calculated other liquids' hydraulic heads by relating their sparging to that of water.I operated an oil and gas splitter that was a component of producing machinery that separates the liquid and gaseous elements of a good stream. I used dividers that could be cylinders or spheres in form and could be vertical or horizontal. I employed gravity to separate the heaviest liquids from the gas, with the heavy fluids dropping to the bottom as well as the gas ascending to the top. I found that the amount of oil in the separator's bottom was controlled by a float valve or even another liquid-level controller.

[CE 3.12]

Coordination was made with the project manager during the work and it was linked with evaluating and applying the petroleum engineering activities consistently throughout the work.

D) Summary

[CE 3.13]

I analyzed that hydrocarbons were organic hydrogen-carbon molecules with increasing densities, boiling temperatures, and freezing temperatures as their chemical weights grow. Because of the great attraction of the carbon atom for those other elements and for itself, cannabinoids exist in a diversity of combinations despite having just two constituents. I examined that the lowest hydrocarbon atoms were gaseous, whereas the biggest become solid.

[CE 3.14]

I identified these evaluations serve as the interpretative criteria on which the risk gap by the Enforcement Management Model (EMM) and, as a result, I measured the responsibility holder's effectiveness regarding well quality monitoring.

[CE 3.15]

Enhanced the project results by implementing the petroleum engineering expertise during the project and brought timely work outcomes. Overall, my role as an inspector of gas and oil wells was critical in ensuring the safety and efficiency of these important resources. By carefully identifying installations and monitoring their condition, I helped to minimize the risk of accidents and ensure that these wells could continue to operate safely and efficiently for years to come.

PROFESSIONAL ENGINEER
Summary Statement

These are the competency Units and Elements. These elements must be addressed in the Summary Statement (see Section C). If you are applying for assessment as a Professional Engineer, you will need to download this page, complete it and lodge it with your application.

Competency Element	A brief summary of how you have applied the element	Paragraph number in the career episode(s) where the element is addressed
PE1 KNOWLEDGE AND SKILL BASE		
PE1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	I executed three petroleum engineering projects which were: • Process Implementation and Refining of Petroleum Oil. • Oil field equipment Installation, Maintenance and Operation. • Inspected Gas and Oil Wells to Identify Installations.	CE 1.1, CE 2.1, CE 3.1

PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics and computer and information sciences which underpin the engineering discipline	I categorized the whole well-to-consumer distribution system for petroleum goods into 3 parts. I checked those thermal connections that were linked to a protective circuit and that they were in use, per the product's approved categorization.I changed the gear only with the permission of an approved ITT representative and use only parts supplied by an authorized ITT representative. I worked on the assessment of the main identified hazards that would be unique to the institution and may be based on issues revealed during the RoMH evaluation.	CE 1.2 CE 2.3 CE 3.3
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	I examined that exploration for crude oil resources and crude oil extraction were examples of offshore activity. I examined the product to see if any pieces were absent or had been harmed.I used the motor's lifting lugs and an appropriate sling, to raise the engine into place. I included sampling to evaluate the installation's flame and explosive warning and mitigating measures.	CE 1.3 CE 2.6 CE 3.4

PE1.4 Discernment of knowledge development and research directions within the engineering discipline	I worked on oil volume being considered as the API major gravitation in the refinery. I found that the most prominent downstream firms were gasoline terminals, but businesses that distribute heated oils or propane would also belong to that group. I did an analysis of the bearing framework and physical seal without causing any specific damage to the motor. I did an analysis of the bearing framework and physical seal without causing any specific damage to the motor. I utilized the flowing liquid in rotating well drills for cleansing and conditioning the counteract formation damage.	CE 1.6 CE 2.7 CE 3.6

PE1.5 Knowledge of contextual factors impacting the engineering discipline	I worked on the distillation which was the process of separating components depending on their volatile. I worked on attaining the specific physiological qualities followed by reforming and entailing to modify the hydrocarbon chemical composition. I properly prepared vertical pumps for storage and maintained them regularly while in storage.I checked the device supplier for particular storage recommendations for motors, gearheads, and rotors. I assigned the main inspectors to that issue and should prepare for the examination by evaluating the installation's RoMH, containing risk analysis information.	CE 1.6 CE 2.8 CE 3.7

PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline	I formed the cracked and reformation that were the 2nd and 3rd stages.I attained specific physiological qualities, reforming entails modifying the chemical composition of hydrocarbon. I investigated that users should observe the pumping storing criteria and that technique for preservation. I installed back vanes on the impeller to minimize axial thrust and avoid particles from entering. I worked on the finishing Activities and the steps were taken after a well has been completed to the point when the producing string of casings was to be installed.	CE 1.10 CE 2.9 CE 3.8
PE2 ENGINEERING APPLICATION ABILITY		
PE2.1 Application of established engineering methods to complex engineering problem solving	Petroleum engineering concepts were applied in the project which led to obtain the mandatory work results.	CE 1.9, CE 2.10, CE 3.9
PE2.2 Fluent application of engineering techniques, tools and resources	Engineering resources were utilized in the project to achieve the needed project results.	CE 1.11, CE 2.12, CE 3.11
PE2.3 Application of systematic engineering synthesis and design processes	Associated design processes were followed in the project to obtain the recommended project outcomes.	CE 1.10, CE 2.9, CE 3.10
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	Petroleum engineering fundamentals were applied in the project to achieve the required work results.	CE 1.12, CE 2.11, CE 3.12
PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES		
PE3.1 Ethical conduct and professional accountability	An ethical practice was maintained in the project to achieve the needed project results.	CE 1.7, CE 2.9, CE 3.8
PE3.2 Effective oral and written communication in professional and lay domains	Specified communication practices were followed in the work to obtain the mandatory work outcomes.	CE 1.8, CE 2.10, CE 3.14
PE3.3 Creative innovative and proactive demeanour	Proactive demeanor was followed in the project to achieve the needed outputs.	CE 1.9, CE 2.9, CE 3.10

PE3.4 Professional use and management of information	Professional petroleum engineering concepts were applied in the project to obtain the fundamental results.	CE 1.12, CE 2.11, CE 3.13
PE3.5 Orderly management of self, and professional conduct	Professional self-management conduct was followed in the project to achieve the needed outcomes.	CE 1.14, CE 2.13, CE 3.11
PE3.6 Effective team membership and team leadership	Effective team leadership skills were applied and followed to obtain the required project outputs.	CE 1.13, CE 2.12, CE 3.12