

Overview of contracting and trading company engineering essay



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Environment, safety and wellness are the most of import cardinal constituents sing zero accident policy. That 's why in the ES & A ; H section at the CAT International Qatar many plans and ordinances sing safety at work, waste direction, safety supervision, etc. are established. One of the most of import plans is the STARRT (Safety Task Analysis Risk Reduction Talk) cards. On each responsibility or activity, the wellness supervisor must group the workers and province to them the likely hazards that might happen during this specific activity and how to avoid it and cover with it if necessary. This plan is obliged by Qatar authorities on each and every working site.

PBS (People Based Safety) which consists of a squad called BOT (Behavior Observation Team) which is responsible of entering and garnering informations by detecting workers ' behaviours. After entering the information, a statistical analysis is done to acquire the concluding consequences and per centums sing the advancement in zero accident policy.

PPE (Personal Protective Equipment) which consist of protective helmet, dark glassess, safety boot, brooding waistcoat and any other safety equipment that is suited for a specific activity. The intent of PPE is to cut down hazards and jeopardies that may happen during work. Each and every individual at site must have on PPE or else entree to the site will be prohibited.

Furthermore preparation Sessionss referring safety and hazard direction are inducted on hebdomadal footing in each site in order to review the memory

of workers sing the hazards and how to forestall them. Meetings with the chief contractor are conducted besides to maintain path of updated statistics sing safety. Besides a confined infinite certification is needed to come in such topographic points, so to acquire this certification a presentation and preparation session are conducted when needed.

2. 2 QC/QA Department

Quality Control (QC) is a procedure or system of proficient activities done by skilled applied scientists to command the quality of work done on site and to look into and do certain that each activity is done based on sanctioned eyeglasses, so fix studies refering the activity if approved or defects have been detected.

QC besides prepares ITP (Inspection and Test Plan) statements which include the methods and standards used during review of the work done and how to measure the quality of this work.

So QC ensures rightness and completeness of work, inspect and place any mistake done sing stuffs or work done. Furthermore one of import thing QC is responsible for which is the Method Statement. Method Statement includes how to make a certain activity safely and expeditiously. It includes a range of work explicating in inside informations how to execute a certain activity and includes an lineation of possible hazards and the stairss to avoid these hazards. An lineation of method statement is shown as follows:

Quality Assurance (QA) is besides a set of processs but it is process oriented instead than merchandise oriented. QA section is responsible of bar of defects instead than observing defects by puting up the route or manner
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for acquiring a quality work while QC responsible for keeping and observing defects in merchandises. So in short words QA is preventative while QC is detective.

At each undertaking, the planning section is an indispensable 1. Since planning section is responsible for putting up a program covering each and every facet and activity of the undertaking including money, clip continuance, stuffs. So we can state planning shows how the hereafter of the undertaking looks like but of class all can be alter due to operation and proficient factors.

As clip base on ballss by the planning section ever update the direction about the advancement of the undertaking stipulating each activity advancement. Weekly, 4 hebdomads and monthly studies are prepared by the section and issued to the direction. Furthermore per centums of work done are calculated and added to the overall advancement.

Other than hebdomadal and monthly study, productiveness update study is done which specifies the stuffs and sum of man-hours used in each activity. In add-on to that, stuff trailing system (MTS) is besides prepared stipulating the stuffs needed and ordered by the procurance section and the clip needed to be delivered to the site and therefore updating the clip agenda based on this. So when fixing MTS, the planning section gets info from other concerned sections and updates the studies.

Updating drawings of what is accomplished is besides done in planning section. Not merely this but besides taking exposures of what is done and describing to the direction and chief contractor for blessing. In undertaking <https://assignbuster.com/overview-of-contracting-and-trading-company-engineering-essay/>

company the company get paid when each activity is done ; so the planning section prepares payment study stipulating the per centum done in each activity so company will acquire paid the specified per centum of money, i. e. , paid by installments.

2. 4 Document Control Department

Document Control section which is merely responsible of receiving, salvaging, coding and administering the paperss to all other full sections. Each and every individual paper or file must go through through papers control in order to be coded or else it will be disregarded and considered as a abrasion. Besides papers control get drawings from Design Company and administer them to the concerned section.

2. 5 QS Department

QS and procurance section which chiefly has a immense undertaking in taking off stuffs from the stamp maps and drawings so registering them into database. This is a portion of a large procedure in measuring the cost of the stuffs to be ordered to the site. First, preliminary designs are received from the design company through the papers control section. Then after cognizing the type and sum of stuffs needed through take-off, an order is arranged to a certain figure of fabricating companies or providers which reply in a specific period of clip. Then an offer is chosen and a material submittal of the chosen offer which includes the stuffs with elaborate specifications is arranged and sent to the chief contractor for blessing. If approved so store drawings will be processed else another offer shall be chosen. This submittal is called `` Conformity Statement `` which includes `` Specs Comparison Sheet `` :

Conformity to the Specification

Conformity to the Manufacturer

Quality Certificate

Trial Certificate

Catalogs

Material Safety Data Sheet

Partial Project list

Note that each type of stuff bought, e. g. , fan, motors, flexible elastomeric insularity, fibreglass canal insularity and stiff pipe coverings, has its ain conformity statement and needs to be approved by the chief contractor in order to be bought and used.

3. 0 Site & A ; Technical Work

3. 1 Welding

Welding is the procedure of fall ining two metals together by usage of 3rd one which is called filler metal or without the usage of 3rd metal. Here in gulf most of the mechanical undertakings include shrieking and pipes installing of different types and sizes.

3. 2 Types of Welding observed

Different types of welding were observed such as:

Shielded Metal Arc Welding (SMAW)

Gas Tungsten Arc Welding (GTAW)

Butt Fusion Welding

Shielded Metal Arc Welding (SMAW)

In SMAW, a consumable welding electrode that is covered with a flux and the filler stuff in the nucleus is used. The function of the flux is merely to protect the welding from oxidization. An electric current, AC or DC, is used to organize an electric discharge between the metals to be joined (besides called base metals) and the electrode so the filler stuff is melted to organize a joint between the two metals which are called basal metals. In general SMAW is used in welding big C steel pipes that is used to present H2O supply and return in the undertaking.

Figure: Shielded Metal Arc Welding

Gas Tungsten Arc Welding (GTAW)

This is another type of welding besides used in this undertaking. In GTAW a non-consumable welding electrode is used called tungsten electrode. An electric current is used to organize an electric discharge between base metals and the tungsten electrode, and so a filler metal electrode is melted to do the joint. Furthermore a gas called Ar is used in order to protect the welding from taint ; and in that manner a clean welding would be achieved. GTAW is used for A?-3 inch Nominal Pipe Size (NPS) .

Figure: Gas Tungsten Arc Welding

Butt Fusion Welding

This is a simple type of welding. A merger welding machine is used on which the terminuss of pipes of same stuff demand to be joined are attached, so heat is applied by the machine to run the terminuss so the two terminuss are

joined together to organize a welded articulation. Butt merger welding is used in welding High-density polythene (HDPE) pipes.

Figure: Butt Fusion Welding

3. 3 Pipe Welding

Using SMAW, the C steel pipes are welded in the 5G horizontal place but what is meant by G place? Well G refers to groove welding since the pipe 's terminus is grooved. Depending on the pipe place and weld way, there are five G places of channel welding.

The G places are:

1) 1G: Flat and rolled place

2) 2G: Horizontal place

3) 5G: Vertical place

4) 6G: Fixed place

Figure: Welding G-positions

1G place is when the pipe is in horizontal place and it is rolled while the dyer's rocket is done in the level place. The 2G place is when the pipe is placed in perpendicular place and the welding is done in horizontal place. The 5G place is really similar to 1G place ; nevertheless the pipe is fixed and non revolving therefore the welding will go more hard. As for 6G place the pipe is at 45 grade with the horizontal axis and is fixed and non revolving, therefore the welding is done in all places, e. g. , horizontal, perpendicular, level and overhead.

I'll speak merely approximately 2G and 5G places since they are widely used in the undertaking. As mentioned before, the 2G place is when the pipe is fixed in perpendicular place and the welding is done in horizontal place. So the welder must travel around the pipe during welding. Two sorts of welding electrodes are used. The E-6010 electrode is used for the root base on balls and the E-7018 electrode is used for the fill and screen base on ballss. The welding is done from the underside pipe up to exceed pipe while the dyer's rocket beads are consecutive and accurately overlapped. The amperage is between 90-110 Amps.

Figure: Horizontal 2G Pipe Set-up

Figure: Horizontal 2G Pipe Position

Figure: Horizontal 2G Pipe Position

Now as for 5G place, the pipe is in horizontal place and fixed with no rotary motion while the welding is in perpendicular place. Same as other places ; two sorts of welding electrodes are used. The E-6010 electrode is used for the root base on balls and the E-7018 electrode is used for the fill and screen base on ballss. The welding is done utilizing the perpendicular upward weave technique or perpendicular stringer weave technique. Both techniques consists of U-shape technique for root base on balls utilizing E-6010 electrode and Z-motion weave for fill and cap base on ballss utilizing E-7018 electrodes. The amperage is between 90-110 Amps when utilizing E-6010 electrode and between 120-150 Amps when utilizing E-7018 electrode.

Figure: Vertical 5G Pipe Position

Figure: Vertical Upward Weaves for 5G Pipe

Figure: Vertical Stringer Weave for 5G Pipe

4. 0 IDCP (Integrated District Cooling Plant)

Undertaking Description: The Pearl of Qatar Integrated District Cooling Plant (IDCP) constructed a new works to function chilling demands of island edifice building. Integrated District Cooling Plant has ultimate capacity of 120, 000 dozenss with initial installed capacity of 115, 000 dozenss. IDCP is constructed inside The Pearl development, situated merely off-shore Doha, Qatar. It is to be noted that The Pearl of Qatar is reclaimed island. The Pearl, Qatar is a 400 hectare semisynthetic island located off the eastern seashore of Qatar about 20 kilometres north of Doha cardinal concern territory and E of West Bay Lagoon. The Pearl Island is connected to the mainland by a causeway. It is being developed to include residential and commercial use arranged around three primary marinas, including hotels, stores, and residential Villas and flats. Roads and substructure for The Pearl Island development were completed under a separate contract to back up the full island. Road work consists of roads, Bridgess, subway, culverts, surface H2O drainage, signage, and roadway lightning. Infrastructure work consists of drinkable H2O, healthful cloaca, irrigation transmittal, chilled H2O distribution, telecommunications civil work, and electrical distribution.

5. 0 Decision

After about 2 months of preparation at C. A. T International Qatar W. L. L. Company, many benefits were acquired. For case experience in both site and office work has been acquired and a elaborate position of the type of work a <https://assignbuster.com/overview-of-contracting-and-trading-company-engineering-essay/>

catching and building companies do has been revealed. I besides learned about how employees communicate with each others every bit good as with employees of other companies. This internship was indispensable in putting up my future programs every bit good as deriving a new manner of thought.

6. 0 Recognitions

I am heartily grateful to all forces and staffs who helped me in this internship including directors, applied scientists, supervisors, chiefs and each worker whose encouragement, counsel and support enabled me to acquire the most out of this internship. I besides would wish to thank `` The C. A. T. Group '' company for supplying me this internship along with guidelines and followup.