Rope access: a safer option for plant maintenance

A major challenge for many industrial operations is to implement effective health and safety solutions without impacting on the company's budget. Rope access is a safer and more cost-effective alternative to the more traditional means of access in a number of applications, especially on structures at power generation plants and industrial sites, including; smoke stacks, cooling towers, petrochemical tanks and boilers.

Mike Zinn, marketing manager at Skyriders, one of the leaders in the rope access industry, explained that the company's services provide cost and time-saving solutions to clients in the power generation, petrochemical, mining and heavy industries, all of which require rope access-aided inspection, non-destructive testing and maintenance work in difficult-to-reach, high-up locations.

Suspended in their secure positions, workers are able to carry out numerous tasks relating to inspection, maintenance and surveying and are able to increase the amount of detailed work they can undertake.

Rope access technicians have the capability to descend, ascend and traverse ropes for access and work, while being suspended by a harness, which eliminates the risk of a fall. In the unlikely failure of their primary means of support, the workers would make use of a back-up fall arrest system, achieved by using two ropes – a working line and a safety line.

During plant maintenance, rope access saves a considerable amount of time, and therefore money, when compared to more traditional means of access. For example, where electricity is involved, rope access technicians can start work immediately without having to wait for that section to be isolated.

From a health and safety point of view, all Skyriders' rope access technicians are highly-trained and assessed according to strict international criteria. The company is an accredited member of the Institute for Work at Height (IWH), thereby providing clients with the peace-of-mind that the company is bound by best practice solutions for working at height.

Level 3 is the highest level of rope access training and all supervisors are required to be Level 3 qualified. This enables them to supervise rope access teams, and to perform advanced manoeuvres and rescues onsite. Obtaining Level 3 certification is a rigorous process, ensuring that, in the event of an at-height emergency, the safety of all onsite workers is in very capable hands.

Successful projects involving rope access

Skyriders was recently contracted by a large petrochemical company in South Africa for the maintenance of the deluge fire sprinkler system installed on its petrochemical, fuel and gas tanks. A functional fire protection system is vital in these high hazard chemical processing and storage areas.

A four-man team is now permanently stationed at the plant to maintain and repair any damage to the system. The team abseils around the tanks to flush the network, unclog the sprinkler nozzles, replace broken nozzles, and test the system.

Fire sprinkler system

It is imperative that the water path is not blocked. Suppression is necessary to prevent a fire caused by low flash point flammable substances, the likes of which are contained in these tanks, from spreading.

The deluge fire sprinkler system is not only used to control and extinguish fires. It is also crucial for reducing explosion pressure and for cooling the tanks. When there's a fire in the vicinity of a tank, the system is activated to spray water around the structures – reducing their temperature and preventing rupturing. The dedicated team is on site five days a week, 12 months a year, and includes a senior Level 3 rope access supervisor and three experienced technicians whom he oversees.

The petrochemical company has also extended the Skyriders contract to include removal and repainting of a petrochemical tank, 21 m in diameter and 14 m in height, using ultra high-pressure (UHP) washing at around 2 800 bar. UHP is a safer and more cost-effective solution for the project, when compared to grit blasting. The sand used for grit blasting can pose a safety risk when working on a petrochemical plant, as the tanks remain operational during the maintenance project.

UHP is environmentally-friendly, since water is used as the alternative to grit blasting. When water is evaporated, it leaves behind only the paint debris from the removal, without the inconvenience from the grit. The team currently undertaking this task is equipped with protective clothing, which includes TST suits designed with a strong material to prevent bodily harm. In addition, the teams also wear special boots, shoe guards, jackets and protective gloves.

Certification is essential

When selecting work-at-height solutions providers, it is exceptionally important to make use of certified companies. Skyriders is proud of its zero-fatality record, despite the dangerous environments in which the company operates on a daily basis. This success can be attributed to the experience and training of the Skyriders team, coupled with the reliability of the rope access methods, which comply with stringent international safety standards: ISO 22846(replaced SANS 10333 1/2/3 safety standards), and other IWH standards, ISO 9001 and OHSAS 18001 certified.

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