

Case Study

Tailored Emergency Safety Showers for Remote 'Super Giant' Oilfield



Background

The Tengiz oilfield in Kazakhstan is one of the deepest developed super giant oil fields in the world, with further expansion projects in the pipeline.

The aim of the Future Growth Project is to increase the daily production of crude oil to 850,000 barrels per day, a planned growth of 240%.

Running simultaneously, the objective of the Well Head Pressure Management Project is to keep the existing plants full by lowering the flowing pressure at the wellhead and then boosting the pressure to the inlet requirements of the six existing processing trains.

Plans include the construction of a crude stabilization unit, an oil gathering system, power generation facilities and two sour gas compressors.

Objective

Tengiz prides itself on not only being one of the largest oilfields in the world, but also one of the safest, meaning the provision of emergency safety showers to protect the workforce is of utmost importance.

As with many sites of this nature, challenges such as lack of a constant water supply, extremes in temperature from -40°C to +45°C and remote and hazardous environments must be considered when sourcing emergency safety showers.

Due to the extremes in the Kazakhstan climate the provision of tepid water is essential. If the water is too hot a casualty is at risk of scalding, too cold and they are likely to leave the shower before the ANSI recommended 15 minutes rinse time is complete.

Additionally, any outdoor safety showers must offer protection from the elements to ensure a safe and comfortable environment for a casualty until help arrives.

Solution

Hughes provided a fully customised solution to the end user. **Floor mounted emergency safety showers with eye/face wash, featuring stainless steel pipework** were specified for indoor use where a mains water supply was available to feed the safety showers.

The same model was also specially engineered for the more remote indoor facilities with the ability to feed it via a gravity fed water tank, the most efficient method due to the unreliable water supply.

For outdoor use the Polar Emergency Tank Shower and Polar cubicle with tubular showers met all the requirements.

The Polar Cubicle, fitted with trace tape heated tubular showers, has a double skinned insulated booth with integral sump and is designed specifically for outdoor use in exposed freezing conditions.

The push open door gives unimpeded access and automatically closes behind the casualty upon entry.



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Windows in the doors enable the casualty to be monitored whilst using the shower, imperative if assistance is required.

With the addition of an ATEX certified space heater with air temperature thermostat the cubicle is maintained at a comfortable temperature whatever the weather conditions.

Designed for severely cold climates the **1500 Litre Polar Tank Shower** provides tepid water for 15 minutes at a controlled flow of 76 litres per minute, even with no mains water supply, meeting ANSI recommendations.

With similar features to the Polar Cubicle, such as the double skinned insulated booth, push open doors and air heater this is ideal for the extremes in conditions experienced in this location.

An Engineered Solution

First responders must be alerted to a safety shower activation as soon as possible in order to offer help and assistance to reduce the risk of life-changing injuries. Remote alarms were provided for all the safety showers due to be installed at the Tengiz oilfield providing peace of mind to workers operating in such a remote environment.

To meet local demands, all electrical equipment was built to meet CU TR EAC Russian certification and labels were provided in Kazakh, English and Russian.



At Hughes we pride ourselves on the ability to work closely with both end-users and EPC's to provide a truly engineered and customised solution whatever the challenge, in all environments. If you need help in meeting specific site requirements speak to our team today.

Contact our Engineered Solutions team to discuss your needs in detail. We aim to deliver the most effective solutions, whatever the requirement.

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