Tunnels, Terminals, Steel and Processing

Charles Taylor technical

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Technically Speaking is the newsletter of the **Charles Taylor** technical team

Technically Speaking

Risk surveys and risk engineering, research, loss estimation, failure investigations, KRRIS risk rating system

Jamaica ports

Risk Survey

CTt has recently completed a property and liability survey of the Ports Authority in Jamaica. The authority is responsible for all major ports on the island including the Port of Kingston, a major container terminal handling around 16m tonnes of cargo each year. The survey also covered cruise ports including Montego Bay which was visited. Jamaica is vulnerable to earthquakes and hurricanes and has well developed plans for the latter using its experience from previous events. With hundreds of thousands of visitors arriving on cruise ships each year careful risk management is crucial to the authority's success.

For more information contact: Richard.Radevsky@ctcplc.com

Managing Risks Poster

To obtain a copy of our new A2 size poster on managing risks visit our new website www.CTTechnical.com and enter your details. A poster will be sent to you. The poster features pictures from around the world of some of the hair-raising risks that our engineers have come across during surveys.

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Design reviews

Design Review

Charles Taylor technical is periodically called upon to review the design of new multi million or even multi-billion dollar projects before construction work has begun. CTt provides a “fresh pair of eyes”, often a loss estimate and other information useful to insurers. Reviews normally result in risk improvement recommendations to counter-balance situations where attempts to economise may limit process safety features ; or in house resources have limited understanding of process safety issues.

Contractors and clients sometimes focus on capital costs without fully appreciating the long term operating implications of design decisions and the interface between construction/commissioning and operations is not always fully considered. The risks generated by some activities can often be reduced by looking at key aspects such as heavy lifts over operating equipment or laydown and storage area location. Each project requires an individual review since each project is different in aspects such as natural perils, infrastructure, exposure to terrorism and availability of the workforce and equipment. For more information contact: Doug.Scott@ctcplc.com

Power and Desalination in Qatar

Risk Survey

Heavy investment has been made in the expansion of desalination and power generation facilities in Qatar to meet increasing demand from industry and a growing population. Recent installations use established technologies fine-tuned to produce optimum performance. Meticulous design was needed to accommodate the expansion within existing site boundaries. Although the original site size was generous, after multiple expansions space is now at a premium requiring construction and installation to be undertaken with care.

CTt recently undertook a repeat survey of plants which showed that previous recommendations have been acted upon. The value of recommendations has been recognised by the client who has developed better risk management. For more information contact: Jeff.Ashman@ctcplc.com

Expanding steel plant in Libya

Risk Survey

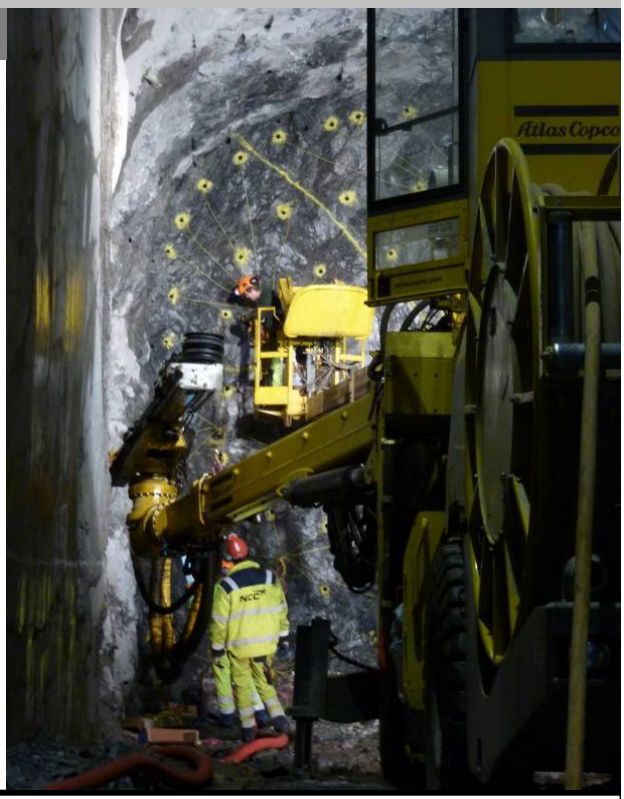
A return survey visit has recently been undertaken to one of the largest steel plants in North Africa. The plant has undergone some refurbishment and an additional process mill is being added to extend the range of products.

Under the process lines, flammable materials are housed in fire-rated enclosures which are only effective if doors are kept shut. Following the survey the company's intranet was used to circulate information on this to a wide audience - perhaps more effective than the traditional approach of holding a meeting. For more information contact: Jeff.Ashman@ctcplc.com

Tunnelling picks up speed for City Line in Stockholm

Risk Engineering

CTt has now completed the first three risk engineering visits to the City Line project in Stockholm. Along much of the route, rock conditions are good allowing tunnels to be blasted once the rock has been grouted. In certain areas it has been possible to use rock sawing to form walls with great precision. In other areas, however, soft soil conditions require a delicate approach not least because of the presence of historic buildings such as the Maria Magdalena Church built in 1763 directly above the alignment. With the project being divided between several international contractors, the workforce comes from many countries with a wide variety of native languages requiring multi-lingual instructions. In the winter low temperatures cause ice to form which this year remained in the waterways around Stockholm for an unusually prolonged period creating interesting challenges for the contractor building the immersed tube tunnel section. For more information: Richard.Radevsky@ctcplc.com



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Bulk Liquid Terminals

Risk Surveys

CTt has recently undertaken surveys of several bulk liquid marine terminals approaching them in the same way as we would a refinery. Philosophies and procedures used at different locations vary considerably. For example at some terminals, pipelines are drained at night to avoid leakage whilst they are left full at others. It is sometimes difficult to apply modern techniques such as intelligent pigging in older terminals because expansion loops are installed in pipelines, making them impassable by pigs. Tank gauging systems differ and sometimes reliance is placed on manual measurement. Unless associated with a processing complex or a large port, it cannot be assumed that emergency response at terminals will be the same as petrochemical plants. Terminals tend to rely more on local authority fire fighters who may lack hydrocarbon industry experience such as in fighting fires in large or closely spaced tanks. Maintenance and inspection is often performed by contractors who can end up knowing more about the facility than the owners. For more information contact: Doug.Scott@ctcplc.com

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Martyn has 10 years experience designing tunnels, bridges and buildings plus 25 years in insurance on major projects. He joined Charles Taylor in London this year.

Risk Focussed Technical Expertise:

- •Risk surveys
- •Risk engineering
- •Research
- •Loss estimation
- •Failure investigations

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