



Asset Protection

HIGH GRADE *industrial* FIRE SERVICES

Kees Kappetijn, Consultant at Kappetijn Safety Specialists, examines Tata Steel's fire brigade model, a holistic approach that integrates safety, continuity and comprehensive response readiness

Most industrial fire brigades in the Netherlands are based on the European Seveso regulations for external safety. They cover incident risks that are often too large for public fire services to handle and must provide a rapid initial response to prevent incidents from escalating and affecting the safety of the surrounding area.

However, some companies go beyond the legal requirements and view a well-equipped corporate fire brigade as a form of 'insurance' for their assets, business processes and

production continuity. Tata Steel IJmuiden, located in the seaport of IJmuiden, is one such company. The corporate fire brigade serves as a safeguard for a safe work environment without disruptions.

Chris van Amersfoort is the Fire Chief of Tata Steel IJmuiden's corporate fire brigade, part of Tata Steel Netherlands. Together with department manager Ferry van der Kolk, he provides insight into the unique corporate fire brigade organisation at this leading steel production company.

Chris says: "Tata Steel IJmuiden has had a designation order for a mandatory corporate fire brigade

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Chris van Amersfoort (Fire Chief) and Ferry van der Kolk (Team Leader / Duty Officer).

since 2005, based on the Seveso III directive. However, Tata’s safety policy and fire brigade services go far beyond this legal requirement, due to the company’s ambition to optimally protect its employees and facilities from incidents and emergencies.”

Organisation and Tasks

The Tata Steel IJmuiden corporate fire brigade provides 24/7 fire response services on the vast company grounds. The brigade has a staff of 22 full-time employees on duty during the day, who handle “cold tasks,” such as prevention, maintenance of equipment, planning, training and drills. Operational response is handled by 59 volunteer

firefighters, divided into six response teams and a duty roster of five officers on call.

These volunteers work in various company processes on-site and are alerted by pager in case of an incident by the control room of the Corporate Security Service, the central hub of Tata Steel IJmuiden’s safety and security organisation.

Chris says: “Because the volunteers of the response service have their regular jobs in the various production facilities, factories and logistics operations, there is a wealth of knowledge within the response teams about the site, buildings and company processes.

“This is important because many of the buildings are immense in both area and height and have complex layouts with specific risks and hazards. The building, site and process knowledge embedded in their daily work is a great asset for the firefighters when they need to respond to an incident in those areas.”

According to Chris, the unique characteristics of Tata Steel IJmuiden’s site and buildings are also the reason for the company’s special collaboration with the public fire service. Chris explains: “Our legal responsibility is to provide readiness for the critical incident scenarios outlined in the corporate fire brigade designation, the ‘Seveso scenarios.’ ▶

“The most important is a ‘flare fire’ from the coking gas pipeline in the above-ground pipe street, which radiates heat to the adjacent blast furnace gas pipeline, with the risk of escalation. This is a scenario with a very low probability but potentially severe consequences, which we are required to control by cooling the blast furnace gas pipeline with our emergency response capabilities.”

However, the vast majority of the corporate fire brigade’s operational work, accounting for around 100 call-outs annually, involves smaller incidents not covered by the designation. Chris: “In fact, these scenarios fall under ‘basic fire services’ and would typically be handled by the public fire service of the Kennemerland Safety Region (when we would call 112). But it’s precisely these more common scenarios, such as fires in buildings and installations, accidents and incidents involving hazardous materials in the factories and infrastructure, we want to manage quickly and effectively, from the earlier mentioned perspective of business continuity and employee safety.”

“The corporate fire brigade plays a key advisory role and is already training and building knowledge to be ready for new risks associated with the hydrogen transition.”

Scaling and response equipment

Deputy Commander and Department Manager Ferry van der Kolk explains how the internal requirements for rapid incident control have been translated into response and scaling-up



procedures: “The mandate requires us to have a fire engine with a minimum crew of six firefighters available 24/7 for a quick initial response. However, our emergency response organisation consists of six teams, each with nine firefighters and in practice, this strength is almost always present on-site.

“With the first crew, we can man one fire engine and the rescue vehicle. However, upon any incident report, all teams are alerted, including off-duty volunteers. All of them live in the mandatory residential area near the Tata Steel site: the village of Velsen-Noord. They can be on-site very quickly to man the remaining vehicles. Through this internal scaling-up, we can staff the remaining response vehicles, allowing us to handle a significant task with our own personnel.”

Tata Steel IJmuiden’s ‘operational fire fleet’ consists of three fire engines and a rescue vehicle.

Additionally, there are several multifunctional personnel/ material trucks, which can tow a portable pump, powder, or foam extinguishing trailer if necessary. For operational leadership during incidents, the company has its own pool of trained officers on duty.

Ferry says: “In short, our response procedure is that we deploy our full potential at every incident, allowing us to make a strong response to control an incident immediately. If, after the first unit and Officer on Duty arrive, it turns out that the incident is minor, we scale down.”

Collaboration with public fire services

The nature of the site, the industrial processes and the complexity of the enormous production buildings give the concept of ‘basic fire services’ a somewhat different character than what is typically understood by the public fire service. Many factories operate with complex and heavy machinery and equipment at very high temperatures.

One scenario that could occur is a ‘spill’ of liquid steel, which can pose a danger to the production facilities. The task of the corporate fire

complex that the standard regulations are simply inadequate. There is always plenty of work for these fire prevention specialists, as continuous renovations, new constructions and adjustments to buildings and infrastructure are happening on our site.”

“The training and drills team manages the training of the 1,200 emergency responders on the site.”

Another cold task is the management and maintenance of fixed fire protection systems on the Tata Steel complex. The site has more than 120 fire suppression systems, such as sprinkler and foam extinguishing installations and over 200 fire alarm systems.

The equipment and materials team is responsible for managing and maintaining the rolling stock of the corporate fire brigade and the equipment on the vehicles. This team is also responsible for maintaining over 9,000 small extinguishing devices on-site, such as hand-held extinguishers, mobile extinguishers and hose reels. Both the team and the small extinguisher workshop are REOB-certified (Regulation for the Recognition of Fire Extinguisher Maintenance).

brigade in such a situation is to cool the liquid steel to solidify it. This is not a ‘Seveso scenario’ from the mandate, but a ‘basic fire service task’ Tata Steel-style. It’s certainly not a scenario that the public fire service has experience with.

However, there is cooperation with the public fire service. The brigade regularly conducts joint exercises with colleagues from the public fire service, both at operational and staff levels.

‘Cold tasks’

Equally important as a quick response to incidents are the so-called ‘cold fire tasks.’ The staff of 22 full-time employees during ‘day shifts’ is divided into several teams, each with its own set of tasks. For example, there is a prevention team with two fire safety engineers and one fire prevention specialist, who are collectively responsible for fire safety advice and planning.

Chris explains: “Tata Steel IJmuiden’s fire safety policy goes significantly beyond the legal fire safety requirements, which are primarily aimed at ensuring safe evacuation for individuals and controlling fires. Our installations and buildings are so large and

Lastly, the training and drills team is responsible for all fire brigade training, basic skill training and organising the nine annual drill days, which all corporate firefighters are required to attend. This team also manages the training of the 1,200 emergency responders on the site.

Future challenges

In the coming years, significant challenges in the areas of prevention and operational preparedness await Chris van Amersfoort and his team. These challenges are related to Tata Steel Nederland’s substantial sustainability ambitions. Tata Steel is working towards green, clean and circular steel with less impact on the surrounding environment.

The company aims to ‘go green’ and is modifying its production processes to achieve a 40% reduction in CO₂ emissions by 2030, with the goal of becoming fully CO₂-neutral by 2045. Tata Steel plans to achieve these targets by replacing coal/coke with natural gas and eventually green hydrogen as the energy source for making liquid iron. The company is also investing heavily in measures to reduce other forms of environmental pollution.

Particularly in the energy and raw materials transition, the corporate fire brigade plays a key advisory role and the response organisation is already training and building knowledge to be ready for new risks and scenarios associated with the hydrogen transition. In this way, the corporate fire brigade, through its non-operational tasks, also plays an essential role in ensuring safety in the ‘green steel factory of the future.’ ■

